

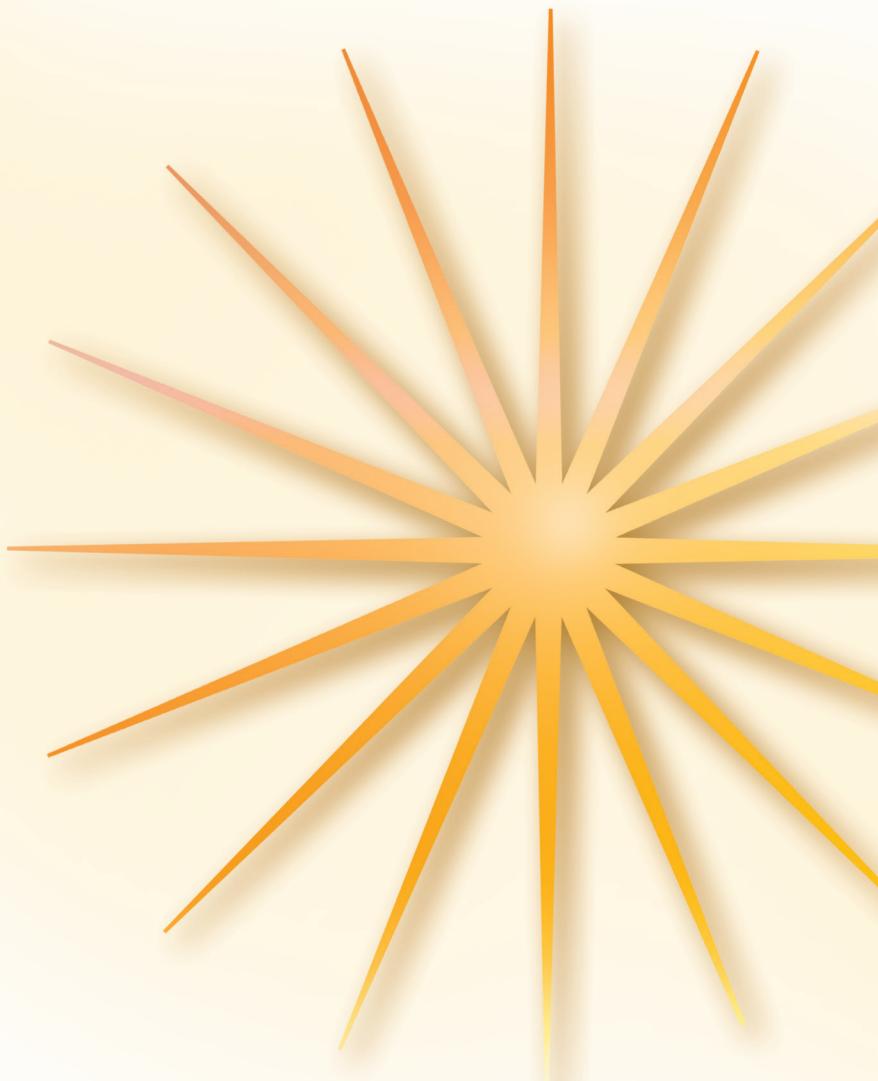
GRADE
4

SPECTRUM[®] Math



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- Measurement conversions
- Classifying geometric figures
- Preparing for algebra
- Answer key



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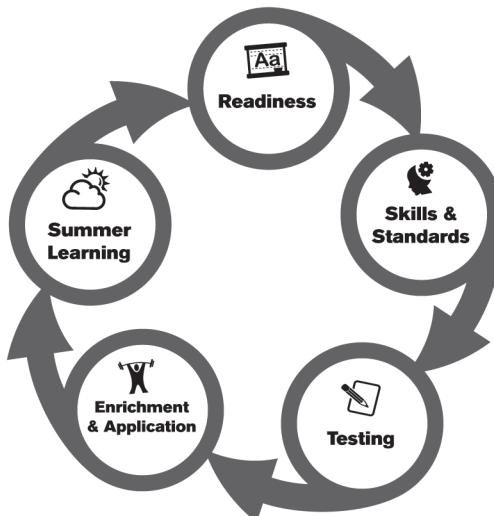

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SPECTRUM®

Math

Grade 4

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Check What You Know

Adding and Subtracting 1 and 2 Digits

Add or subtract.

a	b	c	d	e	f
1. $\begin{array}{r} 35 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ + 13 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ + 24 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ + 12 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ + 33 \\ \hline \end{array}$

2. $\begin{array}{r} 43 \\ + 24 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ + 31 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ + 16 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ + 23 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ + 15 \\ \hline \end{array}$
--	--	---	---	---	---

3. $\begin{array}{r} 50 \\ + 33 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ + 25 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ + 25 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ + 13 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ + 32 \\ \hline \end{array}$
--	--	---	---	---	---

4. $\begin{array}{r} 12 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ + 12 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ + 23 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ + 19 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ + 23 \\ \hline \end{array}$
---	---	---	---	--	---

5. $\begin{array}{r} 45 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ - 23 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ - 14 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ - 31 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ - 22 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ - 12 \\ \hline \end{array}$
---	---	---	---	---	---

6. $\begin{array}{r} 49 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ - 46 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ - 18 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ - 56 \\ \hline \end{array}$
--	---	---	---	--	---

7. $\begin{array}{r} 65 \\ - 55 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ - 33 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ - 42 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ - 15 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ - 48 \\ \hline \end{array}$
--	---	---	---	---	---

8. $\begin{array}{r} 54 \\ - 23 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ - 18 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ - 37 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ - 66 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ - 15 \\ \hline \end{array}$
--	---	---	---	---	---



Check What You Know

SHOW YOUR WORK

Adding and Subtracting 1 and 2 Digits

Solve each problem.

9. Mr. Dimas has 15 new students in his fourth-grade class. He already has 21 students in the class. How many students are in Mr. Dimas's class?

There are _____ students in his class.

10. There are 35 pages in Kendrick's science book. Last night, Kendrick read 14 pages. How many more pages does Kendrick have left to read?

There are _____ pages left to read.

11. Kono's father gave him 75 apples so he could pass them out to his friends. If Kono gave 43 away, how many apples does he have left?

There are _____ apples left.

12. Monica and Tania want to throw a surprise party for Rosa. They plan to send out 45 invitations. If Tania writes 24, how many invitations does Monica need to write?

Monica needs to write _____ invitations.

13. Seki's soccer team is in the State Cup Tournament. There were 23 goals made in the entire tournament. Seki's team made 12 of them. How many goals were made by the other teams?

The other teams scored _____ goals.

9.

10.

11.

12.

13.

Lesson 1.1 Adding 1- and 2-Digit Numbers

$$\begin{array}{r}
 \text{addend} \longrightarrow & 6 & 60 \\
 \text{addend} \longrightarrow & +3 & +30 \\
 \text{sum} \longrightarrow & \underline{9} & \underline{90}
 \end{array}$$

Add the ones. $ \begin{array}{r} 23 \\ +16 \\ \hline 9 \end{array} $	Add the tens. $ \begin{array}{r} 23 \\ +16 \\ \hline 39 \end{array} $
--	---

If $6 + 3 = 9$, then $60 + 30 = 90$.

Add.

	a	b	c	d	e	f
1.	$ \begin{array}{r} 11 \\ +8 \\ \hline \end{array} $	$ \begin{array}{r} 10 \\ +30 \\ \hline \end{array} $	$ \begin{array}{r} 25 \\ +14 \\ \hline \end{array} $	$ \begin{array}{r} 81 \\ +18 \\ \hline \end{array} $	$ \begin{array}{r} 52 \\ +17 \\ \hline \end{array} $	$ \begin{array}{r} 74 \\ +23 \\ \hline \end{array} $
2.	$ \begin{array}{r} 10 \\ +80 \\ \hline \end{array} $	$ \begin{array}{r} 7 \\ +2 \\ \hline \end{array} $	$ \begin{array}{r} 15 \\ +4 \\ \hline \end{array} $	$ \begin{array}{r} 7 \\ +92 \\ \hline \end{array} $	$ \begin{array}{r} 71 \\ +6 \\ \hline \end{array} $	$ \begin{array}{r} 70 \\ +10 \\ \hline \end{array} $
3.	$ \begin{array}{r} 7 \\ +22 \\ \hline \end{array} $	$ \begin{array}{r} 20 \\ +30 \\ \hline \end{array} $	$ \begin{array}{r} 92 \\ +7 \\ \hline \end{array} $	$ \begin{array}{r} 83 \\ +16 \\ \hline \end{array} $	$ \begin{array}{r} 46 \\ +23 \\ \hline \end{array} $	$ \begin{array}{r} 70 \\ +20 \\ \hline \end{array} $
4.	$ \begin{array}{r} 2 \\ +41 \\ \hline \end{array} $	$ \begin{array}{r} 30 \\ +30 \\ \hline \end{array} $	$ \begin{array}{r} 51 \\ +48 \\ \hline \end{array} $	$ \begin{array}{r} 34 \\ +24 \\ \hline \end{array} $	$ \begin{array}{r} 7 \\ +22 \\ \hline \end{array} $	$ \begin{array}{r} 20 \\ +50 \\ \hline \end{array} $
5.	$ \begin{array}{r} 30 \\ +15 \\ \hline \end{array} $	$ \begin{array}{r} 21 \\ +21 \\ \hline \end{array} $	$ \begin{array}{r} 7 \\ +42 \\ \hline \end{array} $	$ \begin{array}{r} 40 \\ +40 \\ \hline \end{array} $	$ \begin{array}{r} 56 \\ +41 \\ \hline \end{array} $	$ \begin{array}{r} 62 \\ +17 \\ \hline \end{array} $
6.	$ \begin{array}{r} 34 \\ +34 \\ \hline \end{array} $	$ \begin{array}{r} 60 \\ +13 \\ \hline \end{array} $	$ \begin{array}{r} 9 \\ +30 \\ \hline \end{array} $	$ \begin{array}{r} 4 \\ +3 \\ \hline \end{array} $	$ \begin{array}{r} 13 \\ +6 \\ \hline \end{array} $	$ \begin{array}{r} 44 \\ +33 \\ \hline \end{array} $
7.	$ \begin{array}{r} 3 \\ +32 \\ \hline \end{array} $	$ \begin{array}{r} 5 \\ +10 \\ \hline \end{array} $	$ \begin{array}{r} 63 \\ +24 \\ \hline \end{array} $	$ \begin{array}{r} 71 \\ +20 \\ \hline \end{array} $	$ \begin{array}{r} 41 \\ +8 \\ \hline \end{array} $	$ \begin{array}{r} 32 \\ +30 \\ \hline \end{array} $

Lesson 1.2

Subtracting 1- and 2-Digit Numbers

minuend	\longrightarrow	9	9 0
subtrahend	\longrightarrow	-3	-3 0
difference	\longrightarrow	<u>6</u>	<u>6 0</u>

If $9 - 3 = 6$, then $90 - 30 = 60$.

Subtract the ones. $\begin{array}{r} 53 \\ -21 \\ \hline 2 \end{array}$	Subtract the tens. $\begin{array}{r} 53 \\ -21 \\ \hline 32 \end{array}$
---	--

Subtract.

	a	b	c	d	e	f
1.	$\begin{array}{r} 33 \\ -12 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ -30 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ -11 \\ \hline \end{array}$
2.	$\begin{array}{r} 88 \\ -24 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ -38 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ -31 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ -40 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ -17 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ -62 \\ \hline \end{array}$
3.	$\begin{array}{r} 25 \\ -15 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ -30 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -12 \\ \hline \end{array}$
4.	$\begin{array}{r} 53 \\ -40 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ -42 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$
5.	$\begin{array}{r} 49 \\ -18 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ -27 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ -22 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ -37 \\ \hline \end{array}$
6.	$\begin{array}{r} 79 \\ -35 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ -11 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ -42 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ -64 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ -35 \\ \hline \end{array}$
7.	$\begin{array}{r} 25 \\ -13 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ -23 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ -41 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ -63 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ -77 \\ \hline \end{array}$

Lesson 1.3 Adding Three or More Numbers (single digit)

$$\begin{array}{r}
 & 2 & \\
 & 6 & \searrow \\
 +7 & \rightarrow & + & 7 \\
 \hline
 & 15
 \end{array}$$

$$\begin{array}{r}
 & 3 & \\
 & 4 & \searrow \\
 & 7 & \rightarrow & 7 & \searrow \\
 +1 & \rightarrow & +1 & \rightarrow & + & 1 \\
 \hline
 & 14 \\
 \hline
 & 15
 \end{array}$$

Add.

	a	b	c	d	e	f	g	h
1.	3 4 <u>+5</u>	2 6 <u>+3</u>	7 5 <u>+3</u>	6 3 <u>+7</u>	8 7 <u>+2</u>	9 8 <u>+1</u>	3 6 <u>+8</u>	1 7 <u>+6</u>
2.	4 6 <u>+8</u>	3 5 <u>+2</u>	1 5 <u>+7</u>	8 5 <u>+3</u>	4 7 <u>+8</u>	3 8 <u>+9</u>	2 6 <u>+9</u>	3 3 <u>+7</u>
3.	8 7 <u>+5</u>	8 3 <u>+5</u>	3 8 <u>+2</u>	2 8 <u>+6</u>	6 7 <u>+8</u>	3 6 <u>+9</u>	1 8 <u>+7</u>	5 7 <u>+9</u>
4.	1 3 5 <u>+7</u>	2 6 7 <u>+4</u>	1 5 9 <u>+7</u>	3 5 4 <u>+6</u>	2 2 2 <u>+8</u>	1 7 8 <u>+9</u>	4 4 5 <u>+6</u>	3 4 6 <u>+8</u>
5.	2 6 4 <u>+8</u>	2 2 8 <u>+7</u>	4 5 7 <u>+9</u>	3 3 4 <u>+4</u>	5 5 4 <u>+3</u>	6 3 7 <u>+1</u>	5 4 8 <u>+9</u>	1 7 1 <u>+9</u>
6.	9 1 7 <u>+2</u>	3 4 7 <u>+8</u>	2 5 7 <u>+4</u>	5 3 6 <u>+5</u>	8 3 9 <u>+2</u>	4 6 8 <u>+3</u>	7 3 7 <u>+3</u>	2 1 8 <u>+5</u>

Lesson 1.4

Adding through 2 Digits (with renaming)

Add the ones.

$$\begin{array}{r} 52 \\ +29 \\ \hline \end{array}$$

$$2 + 9 = 11 \text{ or } 10 + 1$$

$$\begin{array}{r} & 1 \\ & 52 \\ + & 29 \\ \hline \end{array}$$

$$10 + 1 \longrightarrow 1$$

Add the tens.

$$\begin{array}{r} 1 \\ 52 \\ +29 \\ \hline 81 \end{array}$$

addend
addend
sum

Add.

a

$$\begin{array}{r} 36 \\ +15 \\ \hline \end{array}$$

b

$$\begin{array}{r} 29 \\ +18 \\ \hline \end{array}$$

c

$$\begin{array}{r} 57 \\ +23 \\ \hline \end{array}$$

d

$$\begin{array}{r} 18 \\ +13 \\ \hline \end{array}$$

e

$$\begin{array}{r} 74 \\ +6 \\ \hline \end{array}$$

f

$$\begin{array}{r} 8 \\ +27 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 88 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ +17 \\ \hline \end{array}$$

$$\begin{array}{r} 27 \\ +47 \\ \hline \end{array}$$

$$\begin{array}{r} 55 \\ +26 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ +15 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ +19 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 65 \\ +26 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ +39 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ +25 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ +45 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ +48 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ +16 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 37 \\ +26 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ +48 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ +68 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ +22 \\ \hline \end{array}$$

$$\begin{array}{r} 37 \\ +17 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ +18 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 65 \\ +25 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +48 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +77 \\ \hline \end{array}$$

$$\begin{array}{r} 82 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ +32 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 39 \\ +29 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ +28 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ +57 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ +14 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +72 \\ \hline \end{array}$$

7.

$$\begin{array}{r} 75 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 73 \\ +9 \\ \hline \end{array}$$

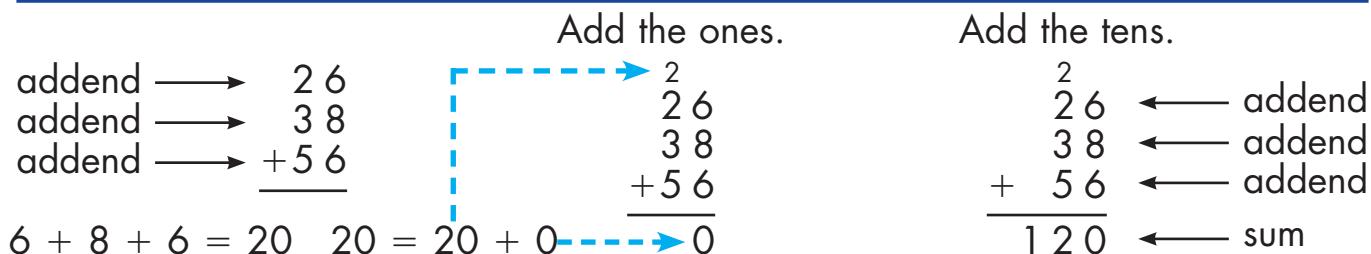
$$\begin{array}{r} 36 \\ +36 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ +18 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ +19 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ +17 \\ \hline \end{array}$$

Lesson 1.5 Adding Three or More Numbers (2 digits)



Add.

	a	b	c	d	e	f
1.	2 7 3 2 + 4 3	3 9 4 8 + 7 6	4 8 6 8 + 7 8	9 7 8 5 + 6 3	4 5 7 4 + 4 8	9 7 2 3 + 1 9
2.	7 7 9 9 + 3 2	8 1 1 9 + 3 8	5 3 7 8 + 8 9	7 5 6 9 + 7 8	3 8 5 7 + 7 5	9 2 8 9 + 9 5
3.	3 7 2 9 + 4 9	8 7 7 8 + 9 5	3 8 4 9 + 5 7	4 2 2 8 + 6 6	5 6 6 5 + 7 7	1 9 3 7 + 4 9
4.	3 5 7 3 5 7 + 6 6	7 3 2 8 4 0 + 6 6	8 8 2 2 3 8 + 8 2	7 5 2 4 9 3 + 5 1	2 9 9 3 3 7 + 5 5	2 1 6 2 4 5 + 3 8
5.	5 1 7 1 8 9 + 9 9	2 0 1 8 3 9 + 4 7	1 7 4 5 8 3 + 9 7	2 7 5 8 7 4 + 6 3	1 3 3 9 5 7 + 8 9	5 7 3 3 7 1 + 6 6
6.	3 9 2 9 5 8 + 7 8	1 3 2 5 7 7 + 8 9	2 7 5 3 6 8 + 7 4	2 7 4 8 3 1 + 9 7	2 2 1 7 3 9 + 4 5	3 9 4 9 6 6 + 7 7

Lesson 1.6

Subtracting 2 Digits from 3 Digits (renaming)

To subtract the ones, rename 5 tens and 3 ones as "4 tens and 13 ones."

Subtract the ones.

Subtract the tens.

Subtract the hundreds.

$$\begin{array}{r} \text{minuend} \rightarrow 153 \\ \text{subtrahend} \rightarrow - 37 \\ \text{difference} \rightarrow \hline \end{array}$$

$$\begin{array}{r} ^4\ 13 \\ 153 \\ - 37 \\ \hline \end{array}$$

$$\begin{array}{r} ^4\ 13 \\ 153 \\ - 37 \\ \hline 6 \end{array}$$

$$\begin{array}{r} ^4\ 13 \\ 153 \\ - 37 \\ \hline 16 \end{array}$$

$$\begin{array}{r} ^4\ 13 \\ 153 \\ - 37 \\ \hline 116 \end{array}$$

Subtract.

a
1. $\begin{array}{r} 175 \\ - 38 \\ \hline \end{array}$

b
 $\begin{array}{r} 132 \\ - 17 \\ \hline \end{array}$

c
 $\begin{array}{r} 175 \\ - 56 \\ \hline \end{array}$

d
 $\begin{array}{r} 134 \\ - 29 \\ \hline \end{array}$

e
 $\begin{array}{r} 144 \\ - 28 \\ \hline \end{array}$

f
 $\begin{array}{r} 156 \\ - 38 \\ \hline \end{array}$

2. $\begin{array}{r} 182 \\ - 73 \\ \hline \end{array}$

$\begin{array}{r} 177 \\ - 59 \\ \hline \end{array}$

$\begin{array}{r} 123 \\ - 18 \\ \hline \end{array}$

$\begin{array}{r} 141 \\ - 33 \\ \hline \end{array}$

$\begin{array}{r} 173 \\ - 54 \\ \hline \end{array}$

$\begin{array}{r} 182 \\ - 48 \\ \hline \end{array}$

3. $\begin{array}{r} 141 \\ - 29 \\ \hline \end{array}$

$\begin{array}{r} 193 \\ - 47 \\ \hline \end{array}$

$\begin{array}{r} 165 \\ - 46 \\ \hline \end{array}$

$\begin{array}{r} 152 \\ - 37 \\ \hline \end{array}$

$\begin{array}{r} 172 \\ - 29 \\ \hline \end{array}$

$\begin{array}{r} 161 \\ - 27 \\ \hline \end{array}$

4. $\begin{array}{r} 183 \\ - 68 \\ \hline \end{array}$

$\begin{array}{r} 127 \\ - 18 \\ \hline \end{array}$

$\begin{array}{r} 134 \\ - 19 \\ \hline \end{array}$

$\begin{array}{r} 172 \\ - 57 \\ \hline \end{array}$

$\begin{array}{r} 124 \\ - 17 \\ \hline \end{array}$

$\begin{array}{r} 153 \\ - 37 \\ \hline \end{array}$

5. $\begin{array}{r} 171 \\ - 39 \\ \hline \end{array}$

$\begin{array}{r} 146 \\ - 27 \\ \hline \end{array}$

$\begin{array}{r} 183 \\ - 68 \\ \hline \end{array}$

$\begin{array}{r} 191 \\ - 72 \\ \hline \end{array}$

$\begin{array}{r} 173 \\ - 47 \\ \hline \end{array}$

$\begin{array}{r} 157 \\ - 38 \\ \hline \end{array}$

6. $\begin{array}{r} 128 \\ - 19 \\ \hline \end{array}$

$\begin{array}{r} 172 \\ - 36 \\ \hline \end{array}$

$\begin{array}{r} 156 \\ - 29 \\ \hline \end{array}$

$\begin{array}{r} 177 \\ - 39 \\ \hline \end{array}$

$\begin{array}{r} 152 \\ - 19 \\ \hline \end{array}$

$\begin{array}{r} 174 \\ - 38 \\ \hline \end{array}$

7. $\begin{array}{r} 145 \\ - 26 \\ \hline \end{array}$

$\begin{array}{r} 161 \\ - 33 \\ \hline \end{array}$

$\begin{array}{r} 173 \\ - 37 \\ \hline \end{array}$

$\begin{array}{r} 127 \\ - 18 \\ \hline \end{array}$

$\begin{array}{r} 153 \\ - 28 \\ \hline \end{array}$

$\begin{array}{r} 191 \\ - 73 \\ \hline \end{array}$

Lesson 1.6 Subtracting 2 Digits from 3 Digits (renaming)

Rename 515 as
"5 hundreds, 0
tens, and 15 ones."
Subtract the ones.

$$\begin{array}{r} 515 \\ - 27 \\ \hline 8 \end{array}$$

Then, rename
"4 hundreds, 10
tens, and 15 ones."
Subtract the tens.

$$\begin{array}{r} 41015 \\ 515 \\ - 27 \\ \hline 88 \end{array}$$

Subtract
the
hundreds.

$$\begin{array}{r} 41015 \\ 515 \\ - 27 \\ \hline 488 \end{array}$$

← minuend
← subtrahend
← difference

Subtract.

1. **a**

$$\begin{array}{r} 138 \\ - 59 \\ \hline \end{array}$$

b

$$\begin{array}{r} 162 \\ - 79 \\ \hline \end{array}$$

c

$$\begin{array}{r} 155 \\ - 66 \\ \hline \end{array}$$

d

$$\begin{array}{r} 128 \\ - 59 \\ \hline \end{array}$$

e

$$\begin{array}{r} 147 \\ - 58 \\ \hline \end{array}$$

f

$$\begin{array}{r} 174 \\ - 85 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 131 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 153 \\ - 67 \\ \hline \end{array}$$

$$\begin{array}{r} 167 \\ - 79 \\ \hline \end{array}$$

$$\begin{array}{r} 144 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 172 \\ - 89 \\ \hline \end{array}$$

$$\begin{array}{r} 125 \\ - 38 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 114 \\ - 37 \\ \hline \end{array}$$

$$\begin{array}{r} 134 \\ - 56 \\ \hline \end{array}$$

$$\begin{array}{r} 181 \\ - 92 \\ \hline \end{array}$$

$$\begin{array}{r} 133 \\ - 44 \\ \hline \end{array}$$

$$\begin{array}{r} 127 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 174 \\ - 88 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 122 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 154 \\ - 77 \\ \hline \end{array}$$

$$\begin{array}{r} 161 \\ - 94 \\ \hline \end{array}$$

$$\begin{array}{r} 166 \\ - 87 \\ \hline \end{array}$$

$$\begin{array}{r} 127 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 172 \\ - 99 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 177 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ - 45 \\ \hline \end{array}$$

$$\begin{array}{r} 147 \\ - 68 \\ \hline \end{array}$$

$$\begin{array}{r} 181 \\ - 95 \\ \hline \end{array}$$

$$\begin{array}{r} 175 \\ - 89 \\ \hline \end{array}$$

$$\begin{array}{r} 141 \\ - 83 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 185 \\ - 97 \\ \hline \end{array}$$

$$\begin{array}{r} 173 \\ - 87 \\ \hline \end{array}$$

$$\begin{array}{r} 142 \\ - 84 \\ \hline \end{array}$$

$$\begin{array}{r} 177 \\ - 98 \\ \hline \end{array}$$

$$\begin{array}{r} 136 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ - 77 \\ \hline \end{array}$$

7.

$$\begin{array}{r} 127 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 126 \\ - 78 \\ \hline \end{array}$$

$$\begin{array}{r} 166 \\ - 89 \\ \hline \end{array}$$

$$\begin{array}{r} 137 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 153 \\ - 84 \\ \hline \end{array}$$

$$\begin{array}{r} 175 \\ - 97 \\ \hline \end{array}$$

Lesson 1.7

Thinking Subtraction for Addition

These numbers should be the same.

$$\begin{array}{r}
 \text{---} \rightarrow & 55 \\
 & +43 \\
 \hline
 & 98 \\
 & -43 \\
 \hline
 & 55
 \end{array}$$

To check
 $55 + 43 = 98$,
 subtract 43 from 98.

Add. Then, check your answer.

	a	b	c	d	e	f
1.	$ \begin{array}{r} 32 \\ +47 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 63 \\ +19 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 38 \\ +24 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 52 \\ +47 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 28 \\ +15 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 75 \\ +15 \\ \hline \end{array} $ $\underline{\quad}$
2.	$ \begin{array}{r} 48 \\ +27 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 82 \\ +10 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 56 \\ +38 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 44 \\ +27 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 28 \\ +27 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 39 \\ +32 \\ \hline \end{array} $ $\underline{\quad}$
3.	$ \begin{array}{r} 31 \\ +59 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 43 \\ +18 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 61 \\ +29 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 125 \\ +17 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 155 \\ +38 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 205 \\ +69 \\ \hline \end{array} $ $\underline{\quad}$
4.	$ \begin{array}{r} 199 \\ +14 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 128 \\ +33 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 125 \\ +50 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 109 \\ +32 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 155 \\ +27 \\ \hline \end{array} $ $\underline{\quad}$	$ \begin{array}{r} 137 \\ +29 \\ \hline \end{array} $ $\underline{\quad}$

Lesson 1.8 Thinking Addition for Subtraction

These numbers should be the same.

$$\begin{array}{r} 138 \\ - 24 \\ \hline 114 \\ + 24 \\ \hline 138 \end{array}$$

To check

$138 - 24 = 114$,
add 24 to 114.

Subtract. Then, check your answer.

1. $\begin{array}{r} 88 \\ - 45 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	b $\begin{array}{r} 23 \\ - 19 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	c $\begin{array}{r} 47 \\ - 28 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	d $\begin{array}{r} 95 \\ - 38 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	e $\begin{array}{r} 74 \\ - 27 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	f $\begin{array}{r} 98 \\ - 73 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$
2. $\begin{array}{r} 38 \\ - 17 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	b $\begin{array}{r} 68 \\ - 27 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	c $\begin{array}{r} 54 \\ - 36 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	d $\begin{array}{r} 49 \\ - 32 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	e $\begin{array}{r} 29 \\ - 10 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	f $\begin{array}{r} 78 \\ - 39 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$
3. $\begin{array}{r} 155 \\ - 28 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	b $\begin{array}{r} 132 \\ - 38 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	c $\begin{array}{r} 179 \\ - 82 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	d $\begin{array}{r} 127 \\ - 89 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	e $\begin{array}{r} 141 \\ - 62 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	f $\begin{array}{r} 137 \\ - 52 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$
4. $\begin{array}{r} 187 \\ - 99 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	b $\begin{array}{r} 119 \\ - 20 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	c $\begin{array}{r} 192 \\ - 73 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	d $\begin{array}{r} 108 \\ - 39 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	e $\begin{array}{r} 188 \\ - 90 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	f $\begin{array}{r} 164 \\ - 78 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$

Lesson 1.9 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Isabel Jones needs to sell 175 calendars to raise money for the school band. She already sold 89 calendars. How many more calendars does she have to sell?

She has to sell _____ more calendars.

- 2.** Jacob Elementary School had a book drive. On Monday, the students collected 95 books. They collected 78 more books on Tuesday. How many books did the students collect?

The students collected _____ books.

- 3.** The Grover family went on a spring vacation. Their cabin is 305 miles away. If they drive 98 miles the first day, how many more miles do they have to drive to get to the cabin?

They must drive _____ more miles.

- 4.** The school cafeteria had an all-you-can-eat pizza party for the entire school. They made 215 slices of cheese pizza and 120 slices of pepperoni pizza. How many slices of pizza did they make?

They made _____ slices of pizza.

- 5.** There are 300 species of turtles and tortoises in the world. If there are 86 species listed as endangered, how many species of turtles and tortoises are not endangered?

There are _____ species of turtles and tortoises that are not endangered.

1.

2.

3.

4.

5.



Check What You Learned

Adding and Subtracting 1 and 2 Digits

Add or subtract.

a

$$\begin{array}{r} 43 \\ +27 \\ \hline \end{array}$$

b

$$\begin{array}{r} 57 \\ +21 \\ \hline \end{array}$$

c

$$\begin{array}{r} 37 \\ +15 \\ \hline \end{array}$$

d

$$\begin{array}{r} 73 \\ +28 \\ \hline \end{array}$$

e

$$\begin{array}{r} 256 \\ +43 \\ \hline \end{array}$$

f

$$\begin{array}{r} 75 \\ +25 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 13 \\ 10 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 27 \\ 5 \\ +23 \\ \hline \end{array}$$

$$\begin{array}{r} 238 \\ 68 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ 82 \\ +73 \\ \hline \end{array}$$

$$\begin{array}{r} 105 \\ 92 \\ +14 \\ \hline \end{array}$$

$$\begin{array}{r} 156 \\ 48 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 21 \\ +13 \\ \hline \end{array}$$

$$\begin{array}{r} 253 \\ +42 \\ \hline \end{array}$$

$$\begin{array}{r} 137 \\ 28 \\ \hline \end{array}$$

$$\begin{array}{r} 79 \\ 97 \\ \hline \end{array}$$

$$\begin{array}{r} 103 \\ 18 \\ \hline \end{array}$$

$$\begin{array}{r} 65 \\ +17 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 73 \\ 21 \\ +10 \\ \hline \end{array}$$

$$\begin{array}{r} 432 \\ +48 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ 18 \\ +32 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ 45 \\ +57 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ +74 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 245 \\ -32 \\ \hline \end{array}$$

$$\begin{array}{r} 105 \\ -16 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ -12 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ -28 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ -73 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ -7 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 107 \\ -34 \\ \hline \end{array}$$

$$\begin{array}{r} 94 \\ -25 \\ \hline \end{array}$$

$$\begin{array}{r} 215 \\ -26 \\ \hline \end{array}$$

$$\begin{array}{r} 88 \\ -49 \\ \hline \end{array}$$

$$\begin{array}{r} 173 \\ -28 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ -61 \\ \hline \end{array}$$

7.

$$\begin{array}{r} 35 \\ -16 \\ \hline \end{array}$$

$$\begin{array}{r} 108 \\ -19 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ -32 \\ \hline \end{array}$$

$$\begin{array}{r} 125 \\ -15 \\ \hline \end{array}$$

$$\begin{array}{r} 199 \\ -84 \\ \hline \end{array}$$

$$\begin{array}{r} 84 \\ -26 \\ \hline \end{array}$$

8.

$$\begin{array}{r} 147 \\ -48 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ -22 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ -32 \\ \hline \end{array}$$

$$\begin{array}{r} 111 \\ -12 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ -48 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ -29 \\ \hline \end{array}$$



Check What You Learned

SHOW YOUR WORK

Adding and Subtracting 1 and 2 Digits

Solve each problem.

9. Tonya and her friends are collecting cans to recycle. Tonya has 55 cans, Irene has 32 cans, and Heather has 13 cans. How many cans do they have altogether?

They have _____ cans.

10. The football team is raising money by running a car wash. They need to wash 210 cars to raise enough money. They have washed 98 cars already. How many more cars do they need to wash?

They need to wash _____ more cars.

11. Ms. Brooks's science class is studying the environment around the school. Students counted 57 different plants and 25 different animals. How many plants and animals did the class find altogether?

The class found _____ plants and animals.

12. On a field trip, two sisters found frog eggs in a pond. Dee found 82 eggs and Shay found 118 eggs. How many frog eggs did they find?

They found _____ frog eggs.

13. At the bake sale, students brought in 115 cupcakes, 95 brownies, and 85 cookies. How many baked goods did the students bring in?

They brought in _____ baked goods.

9.

10.

11.

12.

13.

NAME _____



Check What You Know

Numeration through 1,000,000

Write each number in expanded form.

1. **a**
3,245

b
973

c
51

2. **a**
6,675

b
845,450

c
790

Write the number word.

3. **a**
945

b
4,332

4. **a**
52,321

b
528,455

5. **a**
495,362

b
9,365,732

Compare each pair of numbers. Write $>$, $<$, or $=$.

6. **a**
4,312 4,213

b
95 58

c
408 480

7. **a**
52,650 52,560

b
610 672

c
72 62

8. **a**
52,173 520,173

b
4,675,321 4,751,670

c
25 52

9. **a**
158,325 158,325

b
652 256

c
8,910,003 8,910,003



Check What You Know

SHOW YOUR WORK

Numeration through 1,000,000

Round each number to the place named.

10. **a** 7,649
 thousands

b 932
 hundreds

c 553,972
 hundred thousands

11. 9,732,005
 millions

75
tens

1,675
hundreds

12. 82,397
 ten thousands

928
tens

682,349
thousands

Write the value of the 9 in each number.

13. **a** 95,235

b 479

c 1,976,235

d 5,392

14. 9,003,452

2,349,003

5,009,321

8,793,215

15. 6,000,942

3,209

794,367

9,003,400

Lesson 2.1 Understanding Place Value (to hundreds)

Write each number in expanded form.

	a	b	c	d
1.	54 <u>50+4</u>	608	32	421
2.	430	549	75	699
3.	one hundred thirty-two	seven hundred twenty-one	thirty-nine	eighty-seven
4.	nine hundred eleven	five hundred thirteen	one hundred ninety	seventy

Write the numerical value of the digit in the place named.

	a	b	c	d
5.	872 tens <u>70</u>	934 hundreds	326 ones	304 ones
6.	799 hundreds	663 tens	309 tens	995 hundreds

Write the number word.

7. 85,034

8. 11,987

Lesson 2.2 Understanding Place Value (to hundred thousands)

Write the number word.

1. 152,731

2. 985,685

Tell the digit in the place named.

3. **a**
50,975
ten thousands

b
986,580
hundred thousands

4. 179,802
thousands

506,671
ten thousands

5. 865,003
ten thousands

997,780
hundred thousands

Write each number in expanded form.

6. 653,410

76,982

7. sixty-two thousand
five hundred twelve

103,254

8. 199,482

32,451

Lesson 2.3 Rounding

Round 15,897 to the nearest thousand.
Look at the hundreds digit. 15,897

8 is greater than or equal to 5, so round 5 to 6 in the thousands place. Follow with zeros.

16,000

Round 234,034 to the nearest hundred.
Look at the tens digit. 234,034

3 is less than 5, so 0 stays in the hundreds place. Follow with zeros.

234,000

Round to the nearest ten.

1. **a** 6,421

b 5,882

c 45,288

d 975

e 13,936

f 842

2. 9,855

26,917

984

95,645

8,673

29,981

Round to the nearest hundred.

3. 325,793

49,832

123,652

24,635

199,794

79,342

4. 798,759

58,345

9,873

8,375

10,097

1,987,654

Round to the nearest thousand.

5. 567,523

93,567

4,378

12,499

747,399

9,385

6. 987,436

346,436

98,345

8,564

75,459

187,349

Lesson 2.3 Rounding

Round 783,538 to the nearest ten thousand.
Look at the thousands digit. 783,538

3 is less than 5, so keep 8 in the ten thousands place. Follow with zeros.

780,000

Round 2,895,321 to the nearest million.
Look at the hundred thousands digit.
2,895,321

8 is greater than or equal to 5, so round 2 to 3 in the millions place. Follow with zeros.

3,000,000

Round to the nearest ten thousand.

1. **a**
726,034

b
1,456,203

c
735,976

d
5,546,937

e
49,324

2.
184,564

7,735,567

34,596

476,435

5,638,748

Round to the nearest hundred thousand.

3.
4,835,694

354,543

9,325,987

7,952,436

456,987

4.
8,745,123

1,057,251

435,900

9,730,204

576,132

Round to the nearest million.

5.
7,499,887

6,576,362

2,245,984

4,458,876

7,561,110

6.
1,935,761

3,666,345

7,468,994

5,565,740

8,089,768

Lesson 2.4

Greater Than, Less Than, or Equal To

Inequalities are statements in which the numbers are not equal.

< means "is less than."
 > means "is greater than."
 = means "is equal to."

Compare
35 and 42.

35 \leq 42

Compare the values.
 Look at the tens.
 3 tens is less than 4 tens.
 35 is less than 42.
 This is an inequality.

Compare
112 and 110.

112 \geq 110

Compare the values.
 Since the hundreds and tens are equal, look at the ones.
 112 is greater than 110.
 This is an inequality.

Compare 55 to 55.

55 \equiv 55

These numbers are equal,
 so this is not an inequality.

Compare each pair of numbers. Write $>$, $<$, or $=$.

- | | a | b | c |
|----|-------------------------------------|---|---|
| 1. | $105 \underline{\quad} 120$ | $52 \underline{\quad} 35$ | $10,362 \underline{\quad} 10,562$ |
| 2. | $5,002 \underline{\quad} 2,113$ | $713 \underline{\quad} 731$ | $12,317 \underline{\quad} 11,713$ |
| 3. | $115,000 \underline{\quad} 105,000$ | $23 \underline{\quad} 32$ | $142 \underline{\quad} 142$ |
| 4. | $310 \underline{\quad} 290$ | $715 \underline{\quad} 725$ | $1,132,700 \underline{\quad} 1,032,700$ |
| 5. | $616 \underline{\quad} 106$ | $119,000 \underline{\quad} 120,000$ | $48,112 \underline{\quad} 48,212$ |
| 6. | $823 \underline{\quad} 821$ | $2,003,461 \underline{\quad} 2,004,461$ | $7,903 \underline{\quad} 9,309$ |
| 7. | $30 \underline{\quad} 25$ | $47,999 \underline{\quad} 45,999$ | $19,900 \underline{\quad} 19,090$ |
| 8. | $111 \underline{\quad} 111$ | $386,712 \underline{\quad} 386,711$ | $615 \underline{\quad} 614$ |

Lesson 2.4

Greater Than, Less Than, or Equal To

Compare the numbers. Write $<$, $>$, or $=$.

$$4,326 \text{ } \boxed{>} \text{ } 4,226$$

This statement is called an **inequality** because the two numbers are not equal.

Look at the hundreds. 3 hundreds is greater than 2 hundreds.

Compare each pair of numbers. Write $>$, $<$, or $=$.

- | a | b | c |
|--|--|--|
| 1. $3,647 \underline{\hspace{1cm}} 36,647$ | 4,678 $\underline{\hspace{1cm}}$ 4,768 | 68,035 $\underline{\hspace{1cm}}$ 68,025 |
| <hr/> | | |
| 2. $4,102,364 \underline{\hspace{1cm}} 4,201,364$ | 56,703 $\underline{\hspace{1cm}}$ 56,702 | 125,125 $\underline{\hspace{1cm}}$ 125,150 |
| <hr/> | | |
| 3. $90,368 \underline{\hspace{1cm}} 90,369$ | 5,654,308 $\underline{\hspace{1cm}}$ 5,546,309 | 65,003 $\underline{\hspace{1cm}}$ 65,013 |
| <hr/> | | |
| 4. $4,567,801 \underline{\hspace{1cm}} 456,780$ | 7,621 $\underline{\hspace{1cm}}$ 7,261 | 769,348 $\underline{\hspace{1cm}}$ 759,348 |
| <hr/> | | |
| 5. $506,708 \underline{\hspace{1cm}} 506,807$ | 1,365,333 $\underline{\hspace{1cm}}$ 1,365,333 | 9,982 $\underline{\hspace{1cm}}$ 9,928 |
| <hr/> | | |
| 6. $224,364 \underline{\hspace{1cm}} 234,364$ | 32,506 $\underline{\hspace{1cm}}$ 23,605 | 7,850 $\underline{\hspace{1cm}}$ 7,850 |
| <hr/> | | |
| 7. $3,204,506 \underline{\hspace{1cm}} 3,204,606$ | 9,851 $\underline{\hspace{1cm}}$ 9,850 | 2,000,567 $\underline{\hspace{1cm}}$ 2,001,567 |
| <hr/> | | |
| 8. $430,632 \underline{\hspace{1cm}} 480,362$ | 49,984 $\underline{\hspace{1cm}}$ 49,984 | 5,640,002 $\underline{\hspace{1cm}}$ 5,639,992 |
| <hr/> | | |
| 9. $172,302 \underline{\hspace{1cm}} 173,302$ | 212,304 $\underline{\hspace{1cm}}$ 212,304 | 6,886 $\underline{\hspace{1cm}}$ 6,896 |



Check What You Learned

Numeration through 1,000,000

Write each number in expanded form.

1.**a**
1,965,012**b**

693,145

2.

103,458

23,972

3.

471,440

18,321

4.

98,485

313,082

Write the number word for each number given.

a**5.**

5,012

b

102

c

1,141

d

99,612

6.

218

21,812

7,982

762

7.

456

123

934,763

37,103



Check What You Learned

Numeration through 1,000,000

Round each number to the nearest ten thousand.

a	b	c	d	e
8. 2,396,473	763,465	85,123	2,391,362	625,104
_____	_____	_____	_____	_____

9. 305,419	8,939,721	434,599	49,002	2,009,452
_____	_____	_____	_____	_____

Round each number to the nearest hundred thousand.

10. 2,952,430	783,210	3,085,997	876,520	385,921
_____	_____	_____	_____	_____

11. 509,815	7,651,298	198,205	6,519,190	457,213
_____	_____	_____	_____	_____

Round each number to the nearest million.

12. 2,456,997	9,352,697	6,976,542	4,561,004	7,395,467
_____	_____	_____	_____	_____

13. 1,596,412	7,396,732	9,235,987	3,396,374	5,564,320
_____	_____	_____	_____	_____

Compare each pair of numbers. Write $>$, $<$, or $=$.

a	b	c
14. 24,124 <u> </u> 24,224	1,975,212 <u> </u> 1,985,212	56,410 <u> </u> 54,408
15. 509,712 <u> </u> 590,172	2,341,782 <u> </u> 2,341,782	976,152 <u> </u> 967,932
16. 6,918 <u> </u> 6,818	49,917 <u> </u> 49,907	3,425,556 <u> </u> 3,524,565
17. 8,724,100 <u> </u> 5,724,101	3,002,019 <u> </u> 3,002,109	2,418 <u> </u> 2,418



Check What You Know

Adding and Subtracting 3 through 5 Digits

Add.

a
1.
$$\begin{array}{r} 562 \\ +217 \\ \hline \end{array}$$

b
$$\begin{array}{r} 1452 \\ +519 \\ \hline \end{array}$$

c
$$\begin{array}{r} 732 \\ +195 \\ \hline \end{array}$$

d
$$\begin{array}{r} 3721 \\ +146 \\ \hline \end{array}$$

e
$$\begin{array}{r} 5605 \\ +1324 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 4003 \\ +1717 \\ \hline \end{array}$$

$$\begin{array}{r} 193 \\ +117 \\ \hline \end{array}$$

$$\begin{array}{r} 2281 \\ +1307 \\ \hline \end{array}$$

$$\begin{array}{r} 624 \\ +624 \\ \hline \end{array}$$

$$\begin{array}{r} 1502 \\ +375 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 443 \\ +237 \\ \hline \end{array}$$

$$\begin{array}{r} 5127 \\ +310 \\ \hline \end{array}$$

$$\begin{array}{r} 6152 \\ +1343 \\ \hline \end{array}$$

$$\begin{array}{r} 9730 \\ +169 \\ \hline \end{array}$$

$$\begin{array}{r} 1070 \\ +910 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 3489 \\ +1301 \\ \hline \end{array}$$

$$\begin{array}{r} 2811 \\ +1187 \\ \hline \end{array}$$

$$\begin{array}{r} 6423 \\ +314 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ +134 \\ \hline \end{array}$$

$$\begin{array}{r} 3007 \\ +2993 \\ \hline \end{array}$$

Subtract.

5.
$$\begin{array}{r} 2817 \\ -314 \\ \hline \end{array}$$

$$\begin{array}{r} 987 \\ -445 \\ \hline \end{array}$$

$$\begin{array}{r} 7760 \\ -1352 \\ \hline \end{array}$$

$$\begin{array}{r} 583 \\ -472 \\ \hline \end{array}$$

$$\begin{array}{r} 9057 \\ -3152 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 8648 \\ -526 \\ \hline \end{array}$$

$$\begin{array}{r} 9382 \\ -7481 \\ \hline \end{array}$$

$$\begin{array}{r} 5533 \\ -4622 \\ \hline \end{array}$$

$$\begin{array}{r} 7520 \\ -1418 \\ \hline \end{array}$$

$$\begin{array}{r} 4103 \\ -136 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 5799 \\ -3182 \\ \hline \end{array}$$

$$\begin{array}{r} 2872 \\ -591 \\ \hline \end{array}$$

$$\begin{array}{r} 1890 \\ -727 \\ \hline \end{array}$$

$$\begin{array}{r} 2378 \\ -1060 \\ \hline \end{array}$$

$$\begin{array}{r} 22486 \\ -475 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 972 \\ -175 \\ \hline \end{array}$$

$$\begin{array}{r} 7003 \\ -1762 \\ \hline \end{array}$$

$$\begin{array}{r} 834 \\ -514 \\ \hline \end{array}$$

$$\begin{array}{r} 71487 \\ -2271 \\ \hline \end{array}$$

$$\begin{array}{r} 9772 \\ -379 \\ \hline \end{array}$$



Check What You Know

SHOW YOUR WORK

Adding and Subtracting 3 through 5 Digits

Solve each problem.

9. Pablo and his family love to travel. This summer, they traveled 2,433 miles to visit relatives. If Pablo's family traveled 1,561 miles last year, how many miles have they traveled in the past two years?

They traveled _____ miles in the past two years?

9.

10. The Brown County Humane Society took in 15,538 pets in the first six months of the year. The rest of the year, they took in 10,456 pets. How many pets did they take in during the year?

They took in _____ pets during the year.

10.

11. Springfield School District bought 578 new science books. There are 1,976 students in the science classes. How many students will not receive a new book?

There will be _____ students without a new book.

11.

12. Yoki had to ride a bus for 1,472 miles to get to Ashland City. The bus broke down after 1,227 miles. How many more miles did Yoki have to travel?

He had _____ miles left to travel.

12.

13. Trey is getting ready to go to basketball camp. There are 213 players arriving on Friday and 131 players arriving on Saturday. If Trey arrives on Sunday with 104 more players, how many players will be at the camp?

There will be _____ players at the camp.

13.

Lesson 3.1 Adding 3-Digit Numbers

Add the ones.

$$\begin{array}{r} 256 \\ +253 \\ \hline 9 \end{array}$$

Add the tens.

$$\begin{array}{r} 256 \\ +253 \\ \hline 09 \end{array}$$

Add the hundreds.

$$\begin{array}{r} 256 \\ +253 \\ \hline 509 \end{array} \begin{array}{l} \text{← addend} \\ \text{← addend} \\ \text{← sum} \end{array}$$

Add.

a
1. $\begin{array}{r} 727 \\ +182 \\ \hline \end{array}$

b
 $\begin{array}{r} 503 \\ +247 \\ \hline \end{array}$

c
 $\begin{array}{r} 482 \\ +107 \\ \hline \end{array}$

d
 $\begin{array}{r} 132 \\ +127 \\ \hline \end{array}$

e
 $\begin{array}{r} 663 \\ +125 \\ \hline \end{array}$

f
 $\begin{array}{r} 823 \\ +170 \\ \hline \end{array}$

2. $\begin{array}{r} 337 \\ +224 \\ \hline \end{array}$

3. $\begin{array}{r} 281 \\ +127 \\ \hline \end{array}$

4. $\begin{array}{r} 407 \\ +313 \\ \hline \end{array}$

5. $\begin{array}{r} 557 \\ +223 \\ \hline \end{array}$

6. $\begin{array}{r} 487 \\ +111 \\ \hline \end{array}$

7. $\begin{array}{r} 723 \\ +432 \\ \hline \end{array}$

3. $\begin{array}{r} 804 \\ +179 \\ \hline \end{array}$

4. $\begin{array}{r} 198 \\ +198 \\ \hline \end{array}$

5. $\begin{array}{r} 374 \\ +298 \\ \hline \end{array}$

6. $\begin{array}{r} 503 \\ +307 \\ \hline \end{array}$

7. $\begin{array}{r} 413 \\ +344 \\ \hline \end{array}$

8. $\begin{array}{r} 723 \\ +177 \\ \hline \end{array}$

4. $\begin{array}{r} 652 \\ +328 \\ \hline \end{array}$

5. $\begin{array}{r} 298 \\ +133 \\ \hline \end{array}$

6. $\begin{array}{r} 511 \\ +347 \\ \hline \end{array}$

7. $\begin{array}{r} 734 \\ +536 \\ \hline \end{array}$

8. $\begin{array}{r} 309 \\ +403 \\ \hline \end{array}$

9. $\begin{array}{r} 178 \\ +131 \\ \hline \end{array}$

5. $\begin{array}{r} 733 \\ +156 \\ \hline \end{array}$

6. $\begin{array}{r} 543 \\ +123 \\ \hline \end{array}$

7. $\begin{array}{r} 317 \\ +226 \\ \hline \end{array}$

8. $\begin{array}{r} 199 \\ +188 \\ \hline \end{array}$

9. $\begin{array}{r} 904 \\ +396 \\ \hline \end{array}$

10. $\begin{array}{r} 825 \\ +125 \\ \hline \end{array}$

6. $\begin{array}{r} 902 \\ +112 \\ \hline \end{array}$

7. $\begin{array}{r} 284 \\ +173 \\ \hline \end{array}$

8. $\begin{array}{r} 610 \\ +330 \\ \hline \end{array}$

9. $\begin{array}{r} 734 \\ +136 \\ \hline \end{array}$

10. $\begin{array}{r} 709 \\ +148 \\ \hline \end{array}$

11. $\begin{array}{r} 138 \\ +125 \\ \hline \end{array}$

7. $\begin{array}{r} 700 \\ +493 \\ \hline \end{array}$

8. $\begin{array}{r} 509 \\ +409 \\ \hline \end{array}$

9. $\begin{array}{r} 822 \\ +188 \\ \hline \end{array}$

10. $\begin{array}{r} 294 \\ +103 \\ \hline \end{array}$

11. $\begin{array}{r} 956 \\ +143 \\ \hline \end{array}$

12. $\begin{array}{r} 248 \\ +109 \\ \hline \end{array}$

Lesson 3.2

Subtracting through 4 Digits

Subtract the ones.

$$\begin{array}{r} 1748 \\ - 952 \\ \hline 6 \end{array}$$

Rename and subtract
the tens.

$$\begin{array}{r} ^{6\ 14} \\ 1748 \\ - 952 \\ \hline 96 \end{array}$$

Rename and subtract
the hundreds.

$$\begin{array}{r} ^{16} \\ 0\ 6\ 14 \\ 1748 \\ - 952 \\ \hline 796 \end{array} \begin{array}{l} \text{minuend} \\ \text{subtrahend} \\ \text{difference} \end{array}$$

Subtract.

a

$$\begin{array}{r} 3621 \\ - 2710 \\ \hline \end{array}$$

b

$$\begin{array}{r} 947 \\ - 338 \\ \hline \end{array}$$

c

$$\begin{array}{r} 1479 \\ - 346 \\ \hline \end{array}$$

d

$$\begin{array}{r} 403 \\ - 172 \\ \hline \end{array}$$

e

$$\begin{array}{r} 5521 \\ - 725 \\ \hline \end{array}$$

f

$$\begin{array}{r} 800 \\ - 401 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 5347 \\ - 849 \\ \hline \end{array}$$

$$\begin{array}{r} 1763 \\ - 1452 \\ \hline \end{array}$$

$$\begin{array}{r} 937 \\ - 647 \\ \hline \end{array}$$

$$\begin{array}{r} 6633 \\ - 3366 \\ \hline \end{array}$$

$$\begin{array}{r} 710 \\ - 607 \\ \hline \end{array}$$

$$\begin{array}{r} 4036 \\ - 2072 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 2786 \\ - 1684 \\ \hline \end{array}$$

$$\begin{array}{r} 475 \\ - 285 \\ \hline \end{array}$$

$$\begin{array}{r} 7036 \\ - 936 \\ \hline \end{array}$$

$$\begin{array}{r} 888 \\ - 364 \\ \hline \end{array}$$

$$\begin{array}{r} 1010 \\ - 909 \\ \hline \end{array}$$

$$\begin{array}{r} 1505 \\ - 436 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 8287 \\ - 475 \\ \hline \end{array}$$

$$\begin{array}{r} 432 \\ - 151 \\ \hline \end{array}$$

$$\begin{array}{r} 4675 \\ - 3765 \\ \hline \end{array}$$

$$\begin{array}{r} 1403 \\ - 647 \\ \hline \end{array}$$

$$\begin{array}{r} 872 \\ - 721 \\ \hline \end{array}$$

$$\begin{array}{r} 6483 \\ - 4894 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 2440 \\ - 2332 \\ \hline \end{array}$$

$$\begin{array}{r} 5280 \\ - 2502 \\ \hline \end{array}$$

$$\begin{array}{r} 5420 \\ - 1938 \\ \hline \end{array}$$

$$\begin{array}{r} 992 \\ - 367 \\ \hline \end{array}$$

$$\begin{array}{r} 5678 \\ - 1234 \\ \hline \end{array}$$

$$\begin{array}{r} 3146 \\ - 454 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 2535 \\ - 2312 \\ \hline \end{array}$$

$$\begin{array}{r} 4311 \\ - 564 \\ \hline \end{array}$$

$$\begin{array}{r} 7653 \\ - 1953 \\ \hline \end{array}$$

$$\begin{array}{r} 1992 \\ - 741 \\ \hline \end{array}$$

$$\begin{array}{r} 5244 \\ - 2631 \\ \hline \end{array}$$

$$\begin{array}{r} 7198 \\ - 2112 \\ \hline \end{array}$$

Lesson 3.3

Adding 4-Digit Numbers

Add the ones.

$$\begin{array}{r} 1564 \\ +4322 \\ \hline 6 \end{array}$$

Add the tens.

$$\begin{array}{r} 1564 \\ +4322 \\ \hline 86 \end{array}$$

Add the hundreds.

$$\begin{array}{r} 1564 \\ +4322 \\ \hline 886 \end{array}$$

Add the thousands.

$$\begin{array}{r} 1564 \\ +4322 \\ \hline 5886 \end{array} \quad \begin{array}{l} \text{← addend} \\ \text{← addend} \\ \text{← sum} \end{array}$$

Add.

a

$$\begin{array}{r} 1576 \\ +1321 \\ \hline \end{array}$$

b

$$\begin{array}{r} 4009 \\ +1019 \\ \hline \end{array}$$

c

$$\begin{array}{r} 2806 \\ +1404 \\ \hline \end{array}$$

d

$$\begin{array}{r} 7314 \\ +3728 \\ \hline \end{array}$$

e

$$\begin{array}{r} 6410 \\ +2302 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 3309 \\ +2190 \\ \hline \end{array}$$

$$\begin{array}{r} 5754 \\ +3475 \\ \hline \end{array}$$

$$\begin{array}{r} 5732 \\ +4260 \\ \hline \end{array}$$

$$\begin{array}{r} 2895 \\ +1435 \\ \hline \end{array}$$

$$\begin{array}{r} 7311 \\ +1695 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 5094 \\ +1557 \\ \hline \end{array}$$

$$\begin{array}{r} 3150 \\ +1472 \\ \hline \end{array}$$

$$\begin{array}{r} 1949 \\ +1799 \\ \hline \end{array}$$

$$\begin{array}{r} 2473 \\ +1303 \\ \hline \end{array}$$

$$\begin{array}{r} 2487 \\ +1658 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 1887 \\ +1884 \\ \hline \end{array}$$

$$\begin{array}{r} 2797 \\ +2613 \\ \hline \end{array}$$

$$\begin{array}{r} 2005 \\ +2023 \\ \hline \end{array}$$

$$\begin{array}{r} 7300 \\ +1795 \\ \hline \end{array}$$

$$\begin{array}{r} 6114 \\ +1876 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 3113 \\ +2002 \\ \hline \end{array}$$

$$\begin{array}{r} 1720 \\ +2071 \\ \hline \end{array}$$

$$\begin{array}{r} 4025 \\ +1883 \\ \hline \end{array}$$

$$\begin{array}{r} 5758 \\ +3837 \\ \hline \end{array}$$

$$\begin{array}{r} 6754 \\ +1006 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 7430 \\ +2670 \\ \hline \end{array}$$

$$\begin{array}{r} 3552 \\ +4431 \\ \hline \end{array}$$

$$\begin{array}{r} 3020 \\ +4070 \\ \hline \end{array}$$

$$\begin{array}{r} 1448 \\ +1336 \\ \hline \end{array}$$

$$\begin{array}{r} 8467 \\ +1452 \\ \hline \end{array}$$

7.

$$\begin{array}{r} 8970 \\ +5732 \\ \hline \end{array}$$

$$\begin{array}{r} 1776 \\ +1406 \\ \hline \end{array}$$

$$\begin{array}{r} 5123 \\ +3011 \\ \hline \end{array}$$

$$\begin{array}{r} 2882 \\ +1999 \\ \hline \end{array}$$

$$\begin{array}{r} 4909 \\ +2080 \\ \hline \end{array}$$

Lesson 3.4 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** A moving company moved 3,400 families this year. Last year, the company moved 2,549 families. How many families did the company move in the past two years?

The company moved _____ families.

- 2.** The Buckton Pet Store buys a total of 7,307 crickets every month for lizard food. If the store needs 230 crickets per month to feed their own lizards, how many crickets are left to sell to customers?

They have _____ crickets left to sell to customers.

- 3.** James and Curtis entered a bike racing event. There were 121 people entered in the event and 240 people watching. How many people were there in all?

There were _____ people at the event.

- 4.** The football team at Franklin High weighed in at 2,150 pounds. The football team at Union High weighed in at 2,019 pounds. How much more did the Franklin High team weigh?

The Franklin High team weighed _____ pounds more.

- 5.** Southgate Nursery sold 561 flowers on Saturday and 359 flowers on Sunday. How many flowers did Southgate Nursery sell over the weekend?

Southgate Nursery sold _____ flowers.

- 6.** In one morning, workers picked two loads of corn from the fields. The first load weighed 1,558 pounds and the second load weighed 1,600 pounds. How many pounds of corn did the workers pick that morning?

The workers picked _____ pounds of corn.

1.**2.****3.****4.****5.****6.**

Lesson 3.5 Subtracting 4- and 5-Digit Numbers

Subtract
the ones.

$$\begin{array}{r} 13546 \\ - 7643 \\ \hline 3 \end{array}$$

Subtract
the tens.

$$\begin{array}{r} 13546 \\ - 7643 \\ \hline 03 \end{array}$$

Rename and subtract
the hundreds.

$$\begin{array}{r} 215 \\ 13546 \\ - 7643 \\ \hline 903 \end{array}$$

Rename and subtract
the thousands.

$$\begin{array}{r} 01215 \\ 13546 \\ - 7643 \\ \hline 5903 \end{array}$$

← minuend
← subtrahend
← difference

Subtract.

a

$$\begin{array}{r} 25625 \\ - 6510 \\ \hline \end{array}$$

b

$$\begin{array}{r} 73461 \\ - 3861 \\ \hline \end{array}$$

c

$$\begin{array}{r} 40305 \\ - 6307 \\ \hline \end{array}$$

d

$$\begin{array}{r} 15898 \\ - 4775 \\ \hline \end{array}$$

e

$$\begin{array}{r} 66859 \\ - 34437 \\ \hline \end{array}$$

$$\begin{array}{r} 80247 \\ - 15136 \\ \hline \end{array}$$

$$\begin{array}{r} 33969 \\ - 20979 \\ \hline \end{array}$$

$$\begin{array}{r} 95348 \\ - 6007 \\ \hline \end{array}$$

$$\begin{array}{r} 59109 \\ - 45207 \\ \hline \end{array}$$

$$\begin{array}{r} 82468 \\ - 3547 \\ \hline \end{array}$$

$$\begin{array}{r} 45244 \\ - 45227 \\ \hline \end{array}$$

$$\begin{array}{r} 63207 \\ - 8009 \\ \hline \end{array}$$

$$\begin{array}{r} 77528 \\ - 68431 \\ \hline \end{array}$$

$$\begin{array}{r} 10826 \\ - 2715 \\ \hline \end{array}$$

$$\begin{array}{r} 57578 \\ - 23888 \\ \hline \end{array}$$

$$\begin{array}{r} 22127 \\ - 3125 \\ \hline \end{array}$$

$$\begin{array}{r} 50003 \\ - 15102 \\ \hline \end{array}$$

$$\begin{array}{r} 85713 \\ - 7649 \\ \hline \end{array}$$

$$\begin{array}{r} 27791 \\ - 13782 \\ \hline \end{array}$$

$$\begin{array}{r} 84875 \\ - 74046 \\ \hline \end{array}$$

$$\begin{array}{r} 99818 \\ - 66919 \\ \hline \end{array}$$

$$\begin{array}{r} 39000 \\ - 8007 \\ \hline \end{array}$$

$$\begin{array}{r} 19909 \\ - 8723 \\ \hline \end{array}$$

$$\begin{array}{r} 29301 \\ - 15082 \\ \hline \end{array}$$

$$\begin{array}{r} 13109 \\ - 11008 \\ \hline \end{array}$$

$$\begin{array}{r} 10806 \\ - 6090 \\ \hline \end{array}$$

$$\begin{array}{r} 42875 \\ - 33705 \\ \hline \end{array}$$

$$\begin{array}{r} 30000 \\ - 15000 \\ \hline \end{array}$$

$$\begin{array}{r} 24080 \\ - 16427 \\ \hline \end{array}$$

$$\begin{array}{r} 16046 \\ - 8204 \\ \hline \end{array}$$

$$\begin{array}{r} 76115 \\ - 24007 \\ \hline \end{array}$$

$$\begin{array}{r} 87223 \\ - 8224 \\ \hline \end{array}$$

$$\begin{array}{r} 24955 \\ - 13865 \\ \hline \end{array}$$

$$\begin{array}{r} 30080 \\ - 2400 \\ \hline \end{array}$$

$$\begin{array}{r} 67660 \\ - 55084 \\ \hline \end{array}$$

Lesson 3.6

Adding 3 or More Numbers (through 4 digits)

Add each place value
from right to left.

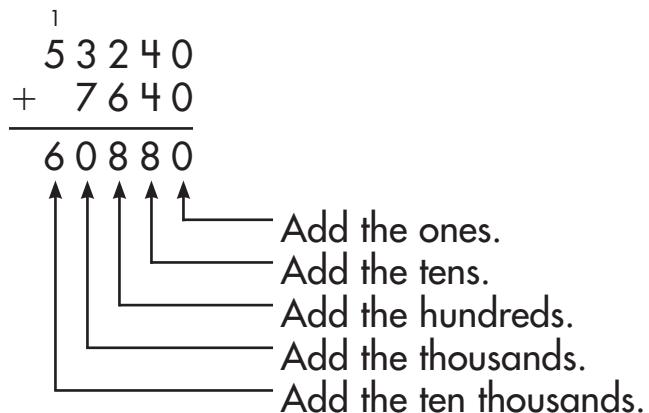
$$\begin{array}{r}
 & \overset{1}{3} & \overset{1}{2} & \overset{1}{5} & \overset{1}{6} \\
 3 & 2 & 5 & 1 & 2 \\
 + & 3 & 3 & 5 & 3 \\
 \hline
 & 2 & 4 & 8 & 1 \\
 & 3 & 8 & 3 & 4 \\
 \hline
 & 6 & 3 & 1 & 1
 \end{array}$$

Add.

	a	b	c	d	e
1.	460 240 16 + 14	300 305 240 + 65	605 245 113 + 105	600 42 36 + 29	1324 720 310 + 209
2.	6410 4205 + 3112	812 16 + 12	7615 1207 + 1152	617 522 + 113	2012 150 + 150
3.	1935 1690 130 + 117	9132 7516 1509 + 123	5903 4051 1230 + 1005	7213 4132 3715 + 1503	942 483 305 + 236
4.	5017 1243 + 502	8800 5008 + 4112	1725 1528 + 1341	7525 5150 + 1000	4973 2007 + 1221
5.	3417 2345 1132 + 305	5009 4103 2705 + 1003	4107 3224 1115 + 607	7010 5528 3175 + 948	5139 4722 1056 + 1013

Lesson 3.7

Adding 4- and 5-Digit Numbers



$$\begin{array}{r}
 5 3 2 4 0 \leftarrow \text{addend} \\
 + 7 6 4 0 \leftarrow \text{addend} \\
 \hline
 6 0 8 8 0 \leftarrow \text{sum}
 \end{array}$$

Add.

	a	b	c	d	e
1.	$ \begin{array}{r} 4 3 0 1 \\ + 7 2 5 6 \\ \hline \end{array} $	$ \begin{array}{r} 2 3 1 2 5 \\ + 1 1 5 0 \\ \hline \end{array} $	$ \begin{array}{r} 7 3 7 2 \\ + 1 7 2 7 \\ \hline \end{array} $	$ \begin{array}{r} 7 4 3 2 3 \\ + 2 8 0 5 7 \\ \hline \end{array} $	$ \begin{array}{r} 2 2 4 8 \\ + 1 1 8 4 \\ \hline \end{array} $
2.	$ \begin{array}{r} 2 3 7 0 3 \\ + 6 1 4 7 \\ \hline \end{array} $	$ \begin{array}{r} 9 1 0 0 \\ + 3 4 9 8 \\ \hline \end{array} $	$ \begin{array}{r} 1 3 7 8 8 \\ + 9 0 9 3 \\ \hline \end{array} $	$ \begin{array}{r} 5 0 0 9 \\ + 5 0 0 9 \\ \hline \end{array} $	$ \begin{array}{r} 1 0 7 3 5 \\ + 5 7 8 1 \\ \hline \end{array} $
3.	$ \begin{array}{r} 5 1 1 2 \\ + 3 2 2 7 \\ \hline \end{array} $	$ \begin{array}{r} 4 5 1 7 3 \\ + 3 2 1 7 \\ \hline \end{array} $	$ \begin{array}{r} 4 8 8 0 \\ + 2 0 0 9 \\ \hline \end{array} $	$ \begin{array}{r} 2 5 8 8 3 \\ + 2 4 4 5 8 \\ \hline \end{array} $	$ \begin{array}{r} 8 2 0 4 8 \\ + 8 9 5 3 \\ \hline \end{array} $
4.	$ \begin{array}{r} 1 0 7 3 8 \\ + 1 3 2 7 \\ \hline \end{array} $	$ \begin{array}{r} 8 3 2 7 \\ + 2 7 3 5 \\ \hline \end{array} $	$ \begin{array}{r} 6 4 5 7 6 \\ + 1 3 6 1 0 \\ \hline \end{array} $	$ \begin{array}{r} 7 9 9 3 \\ + 6 8 1 4 \\ \hline \end{array} $	$ \begin{array}{r} 2 3 2 3 0 \\ + 1 7 0 7 5 \\ \hline \end{array} $
5.	$ \begin{array}{r} 2 3 7 6 \\ + 1 4 8 4 \\ \hline \end{array} $	$ \begin{array}{r} 3 3 7 8 2 \\ + 5 1 1 8 \\ \hline \end{array} $	$ \begin{array}{r} 9 1 0 9 \\ + 4 7 0 1 \\ \hline \end{array} $	$ \begin{array}{r} 4 0 1 1 9 \\ + 2 5 1 1 8 \\ \hline \end{array} $	$ \begin{array}{r} 7 5 9 4 \\ + 3 5 0 5 \\ \hline \end{array} $
6.	$ \begin{array}{r} 1 4 1 5 7 \\ + 3 3 5 2 \\ \hline \end{array} $	$ \begin{array}{r} 5 2 1 3 \\ + 3 0 0 4 \\ \hline \end{array} $	$ \begin{array}{r} 3 2 7 0 5 \\ + 1 8 8 0 5 \\ \hline \end{array} $	$ \begin{array}{r} 2 4 8 4 \\ + 1 5 5 5 \\ \hline \end{array} $	$ \begin{array}{r} 1 5 9 7 8 \\ + 1 4 6 0 5 \\ \hline \end{array} $

Lesson 3.8 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Last year, 5,670 teenagers lived in Perry County. This year, 732 more teenagers moved there. If 2,115 more teenagers move in, how many teenagers will live in Perry County?

There will be _____ teenagers living in Perry County.

- 2.** There are about 5,400 species of mammals in the world. There are about 10,000 species of birds. About how many mammals and birds are there in the world?

There are _____ species of mammals and birds.

- 3.** Mi-Ling and Chet Ai are interested in the planets. They found out Saturn is about 72,367 miles wide and Earth is about 7,918 miles wide. How much wider is Saturn?

Saturn is _____ miles wider.

- 4.** Over the weekend, the Midmark Theater sold 1,208 buckets of popcorn, 2,543 sodas, and 973 boxes of candy. How many food items did the theater sell?

The theater sold _____ food items.

- 5.** At the state fair, the candy booth was very popular. It had a swimming pool filled with chocolate-covered peanuts and pretzels. There was a total of 97,635 pieces of candy in the pool. The pool had 56,784 chocolate-covered peanuts. How many pretzels were there?

There were _____ pretzels.

1.**2.****3.****4.****5.**

Lesson 3.9 Addition and Subtraction Practice

Add.

	a	b	c	d	e
1.	$\begin{array}{r} 39741 \\ + 4372 \\ \hline \end{array}$	$\begin{array}{r} 75103 \\ + 1789 \\ \hline \end{array}$	$\begin{array}{r} 34396 \\ + 33715 \\ \hline \end{array}$	$\begin{array}{r} 60056 \\ + 13051 \\ \hline \end{array}$	$\begin{array}{r} 9408 \\ + 2592 \\ \hline \end{array}$

2.	$\begin{array}{r} 1515 \\ + 1212 \\ \hline \end{array}$	$\begin{array}{r} 10763 \\ + 9275 \\ \hline \end{array}$	$\begin{array}{r} 66804 \\ + 32198 \\ \hline \end{array}$	$\begin{array}{r} 2575 \\ + 1984 \\ \hline \end{array}$	$\begin{array}{r} 25788 \\ + 17875 \\ \hline \end{array}$
-----------	---	--	---	---	---

3.	$\begin{array}{r} 13362 \\ + 44202 \\ \hline \end{array}$	$\begin{array}{r} 45245 \\ + 2163 \\ \hline \end{array}$	$\begin{array}{r} 74612 \\ + 3400 \\ \hline \end{array}$	$\begin{array}{r} 45220 \\ + 1399 \\ \hline \end{array}$	$\begin{array}{r} 4998 \\ + 3975 \\ \hline \end{array}$
-----------	---	--	--	--	---

4.	$\begin{array}{r} 2513 \\ 371 \\ + 287 \\ \hline \end{array}$	$\begin{array}{r} 727 \\ + 236 \\ \hline \end{array}$	$\begin{array}{r} 937 \\ + 793 \\ \hline \end{array}$	$\begin{array}{r} 815 \\ 673 \\ + 295 \\ \hline \end{array}$	$\begin{array}{r} 7035 \\ 1293 \\ + 713 \\ \hline \end{array}$
-----------	---	---	---	--	--

Subtract.

5.	$\begin{array}{r} 5703 \\ - 2147 \\ \hline \end{array}$	$\begin{array}{r} 13817 \\ - 7616 \\ \hline \end{array}$	$\begin{array}{r} 1215 \\ - 130 \\ \hline \end{array}$	$\begin{array}{r} 36973 \\ - 19782 \\ \hline \end{array}$	$\begin{array}{r} 7113 \\ - 6327 \\ \hline \end{array}$
-----------	---	--	--	---	---

6.	$\begin{array}{r} 79342 \\ - 7983 \\ \hline \end{array}$	$\begin{array}{r} 44500 \\ - 24712 \\ \hline \end{array}$	$\begin{array}{r} 6137 \\ - 4372 \\ \hline \end{array}$	$\begin{array}{r} 60704 \\ - 50913 \\ \hline \end{array}$	$\begin{array}{r} 9702 \\ - 7512 \\ \hline \end{array}$
-----------	--	---	---	---	---

7.	$\begin{array}{r} 8791 \\ - 370 \\ \hline \end{array}$	$\begin{array}{r} 3487 \\ - 1807 \\ \hline \end{array}$	$\begin{array}{r} 55013 \\ - 5907 \\ \hline \end{array}$	$\begin{array}{r} 47893 \\ - 45797 \\ \hline \end{array}$	$\begin{array}{r} 8119 \\ - 795 \\ \hline \end{array}$
-----------	--	---	--	---	--

8.	$\begin{array}{r} 84003 \\ - 26174 \\ \hline \end{array}$	$\begin{array}{r} 19834 \\ - 9796 \\ \hline \end{array}$	$\begin{array}{r} 39137 \\ - 25126 \\ \hline \end{array}$	$\begin{array}{r} 6655 \\ - 4837 \\ \hline \end{array}$	$\begin{array}{r} 7841 \\ - 957 \\ \hline \end{array}$
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Lesson 3.9

Addition and Subtraction Practice

Add.

1. **a**
$$\begin{array}{r} 6418 \\ 527 \\ + 318 \\ \hline \end{array}$$

b
$$\begin{array}{r} 1385 \\ 972 \\ + 113 \\ \hline \end{array}$$

c
$$\begin{array}{r} 5759 \\ 2132 \\ + 784 \\ \hline \end{array}$$

d
$$\begin{array}{r} 9107 \\ 6048 \\ + 710 \\ \hline \end{array}$$

e
$$\begin{array}{r} 1248 \\ 1212 \\ + 1047 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 998 \\ + 795 \\ \hline \end{array}$$

$$\begin{array}{r} 10007 \\ + 9323 \\ \hline \end{array}$$

$$\begin{array}{r} 72457 \\ + 38718 \\ \hline \end{array}$$

$$\begin{array}{r} 6514 \\ + 3572 \\ \hline \end{array}$$

$$\begin{array}{r} 105 \\ + 103 \\ \hline \end{array}$$

Subtract.

3.
$$\begin{array}{r} 8080 \\ - 4092 \\ \hline \end{array}$$

$$\begin{array}{r} 79998 \\ - 37948 \\ \hline \end{array}$$

$$\begin{array}{r} 47973 \\ - 9007 \\ \hline \end{array}$$

$$\begin{array}{r} 7013 \\ - 6912 \\ \hline \end{array}$$

$$\begin{array}{r} 8173 \\ - 7289 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 18873 \\ - 12092 \\ \hline \end{array}$$

$$\begin{array}{r} 51135 \\ - 2076 \\ \hline \end{array}$$

$$\begin{array}{r} 5117 \\ - 4108 \\ \hline \end{array}$$

$$\begin{array}{r} 1195 \\ - 945 \\ \hline \end{array}$$

$$\begin{array}{r} 7495 \\ - 6816 \\ \hline \end{array}$$

Add or subtract.

5.
$$\begin{array}{r} 4405 \\ + 758 \\ \hline \end{array}$$

$$\begin{array}{r} 66481 \\ - 8675 \\ \hline \end{array}$$

$$\begin{array}{r} 4007 \\ - 3216 \\ \hline \end{array}$$

$$\begin{array}{r} 12489 \\ + 7981 \\ \hline \end{array}$$

$$\begin{array}{r} 2817 \\ - 250 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 341 \\ + 298 \\ \hline \end{array}$$

$$\begin{array}{r} 17116 \\ + 8713 \\ \hline \end{array}$$

$$\begin{array}{r} 97581 \\ - 85762 \\ \hline \end{array}$$

$$\begin{array}{r} 6245 \\ + 5345 \\ \hline \end{array}$$

$$\begin{array}{r} 15035 \\ - 7335 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 14809 \\ - 12734 \\ \hline \end{array}$$

$$\begin{array}{r} 28785 \\ + 13816 \\ \hline \end{array}$$

$$\begin{array}{r} 9248 \\ - 4517 \\ \hline \end{array}$$

$$\begin{array}{r} 5217 \\ + 5172 \\ \hline \end{array}$$

$$\begin{array}{r} 92408 \\ - 8862 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 4500 \\ 3217 \\ + 2518 \\ \hline \end{array}$$

$$\begin{array}{r} 87672 \\ - 69318 \\ \hline \end{array}$$

$$\begin{array}{r} 5218 \\ 735 \\ + 613 \\ \hline \end{array}$$

$$\begin{array}{r} 6208 \\ + 1517 \\ \hline \end{array}$$

$$\begin{array}{r} 7185 \\ 5807 \\ + 914 \\ \hline \end{array}$$

Lesson 3.10 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Roberto and Steve counted the pennies they have been saving for 5 years. Roberto has 52,781 pennies and Steve has 58,972 pennies. How many pennies do they have altogether?

They have _____ pennies.

- 2.** A baseball team gave away free hats to 10,917 fans. There were 13,786 people at the game. How many fans did not get a free hat?

_____ fans did not get a free hat.

- 3.** Mr. Chien's art classes melted down broken crayons to make a wax figure. The morning class melted 7,325 pieces. The afternoon class melted 6,800 pieces. How many pieces did the classes melt?

The classes melted _____ pieces.

- 4.** There are 5,248 different types of insects in Sue's neighborhood. Of those, 518 can be harmful to people. How many insects cannot hurt Sue?

_____ insects cannot hurt Sue.

- 5.** Jasmine and her brother counted their button collection. Jasmine counted 5,213 buttons in all. Her brother counted 973 buttons that were blue. How many buttons were not blue?

_____ buttons were not blue.

- 6.** The post office delivered 55,002 letters to pen pals in England this year. Last year, the post office delivered 49,000 letters. How many more letters did the post office deliver this year?

The post office delivered _____ more letters this year.

1.**2.****3.****4.****5.****6.**



Check What You Learned

Adding and Subtracting 3 through 5 Digits

Add or subtract.

a
1.
$$\begin{array}{r} 89700 \\ +9313 \\ \hline \end{array}$$

b

$$\begin{array}{r} 49713 \\ +13169 \\ \hline \end{array}$$

c

$$\begin{array}{r} 790 \\ +304 \\ \hline \end{array}$$

d

$$\begin{array}{r} 1825 \\ +775 \\ \hline \end{array}$$

e

$$\begin{array}{r} 7914 \\ +308 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 15431 \\ +10917 \\ \hline \end{array}$$

$$\begin{array}{r} 50012 \\ +1597 \\ \hline \end{array}$$

$$\begin{array}{r} 2118 \\ +825 \\ \hline \end{array}$$

$$\begin{array}{r} 7381 \\ +5964 \\ \hline \end{array}$$

$$\begin{array}{r} 52005 \\ +8007 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 735 \\ 162 \\ +94 \\ \hline \end{array}$$

$$\begin{array}{r} 6280 \\ +3770 \\ \hline \end{array}$$

$$\begin{array}{r} 2515 \\ 1003 \\ +714 \\ \hline \end{array}$$

$$\begin{array}{r} 68810 \\ +43057 \\ \hline \end{array}$$

$$\begin{array}{r} 8291 \\ 6104 \\ +5596 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 68045 \\ -7210 \\ \hline \end{array}$$

$$\begin{array}{r} 3815 \\ -2756 \\ \hline \end{array}$$

$$\begin{array}{r} 22816 \\ -18792 \\ \hline \end{array}$$

$$\begin{array}{r} 7892 \\ -993 \\ \hline \end{array}$$

$$\begin{array}{r} 68613 \\ -40007 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 66891 \\ -9073 \\ \hline \end{array}$$

$$\begin{array}{r} 99895 \\ -75872 \\ \hline \end{array}$$

$$\begin{array}{r} 7001 \\ -6342 \\ \hline \end{array}$$

$$\begin{array}{r} 9723 \\ -714 \\ \hline \end{array}$$

$$\begin{array}{r} 26819 \\ -7910 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 2519 \\ -1943 \\ \hline \end{array}$$

$$\begin{array}{r} 1050 \\ -713 \\ \hline \end{array}$$

$$\begin{array}{r} 70462 \\ -70210 \\ \hline \end{array}$$

$$\begin{array}{r} 51372 \\ -8619 \\ \hline \end{array}$$

$$\begin{array}{r} 38982 \\ -17551 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 52873 \\ +3219 \\ \hline \end{array}$$

$$\begin{array}{r} 4872 \\ +1356 \\ \hline \end{array}$$

$$\begin{array}{r} 80972 \\ +7321 \\ \hline \end{array}$$

$$\begin{array}{r} 7298 \\ +753 \\ \hline \end{array}$$

$$\begin{array}{r} 48932 \\ +30942 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 4962 \\ -519 \\ \hline \end{array}$$

$$\begin{array}{r} 59782 \\ -53973 \\ \hline \end{array}$$

$$\begin{array}{r} 87752 \\ -8521 \\ \hline \end{array}$$

$$\begin{array}{r} 7495 \\ -6581 \\ \hline \end{array}$$

$$\begin{array}{r} 9325 \\ -2513 \\ \hline \end{array}$$



Check What You Learned

SHOW YOUR WORK

Adding and Subtracting 3 through 5 Digits

Solve each problem.

- 9.** Reva's doctor wants her to walk more for exercise. She has to walk 10,000 steps daily. On Saturday, she only walked 8,972 steps. How many more steps did Reva need to walk?

She needed to walk _____ more steps.

- 10.** Curtis wanted to paint his bedroom either blue or green. At the paint store, there were 785 shades of blue and 685 shades of green. How many color choices did Curtis have?

Curtis had _____ color choices.

- 11.** Clare collects stamps from around the world. She has 2,315 stamps so far, but her goal is to have 5,500 stamps. How many more stamps does she need to complete her collection?

She needs _____ more stamps.

- 12.** John's brother is in high school and needs to write a 1,500-word report on pollution. He has 842 words in the report so far. How many more words does he need?

He needs _____ more words.

- 13.** The hospital's service elevator can hold 12,560 pounds. A technician and equipment weigh 752 pounds. How much more weight can the elevator hold?

The elevator can hold _____ more pounds.

9.

10.

11.

12.

13.



Check What You Know

Multiplication

Multiply.

a.
$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 25 \\ \times 3 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 302 \\ \times 13 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 17 \\ \times 15 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 12 \\ \times 12 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 315 \\ \times 47 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ \times 52 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \times 33 \\ \hline \end{array}$$

$$\begin{array}{r} 403 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ \times 8 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 605 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 79 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 1,219 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 117 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ \times 8 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 750 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 794 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 972 \\ \times 3 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 452 \\ \times 92 \\ \hline \end{array}$$

$$\begin{array}{r} 88 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 3,211 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 66 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ \times 73 \\ \hline \end{array}$$

$$\begin{array}{r} 802 \\ \times 16 \\ \hline \end{array}$$

Write the factors of each number. Then, label it *prime* or *composite*.

Factors**Prime or Composite?**

6. 12 _____

7. 11 _____

8. 20 _____

9. 32 _____



Check What You Know

Multiplication

SHOW YOUR WORK

Solve each problem.

- 10.** Students set up the chairs for the spring concert at Bethel High School. There were 25 rows with 10 chairs in each row. How many chairs did they set up?

They set up _____ chairs.

- 11.** The school carnival was a success. The school sold 99 tickets and each ticket was good for 2 rides. How many rides did the school sell?

The school sold _____ rides.

- 12.** At the Bead Shop, there are 25 rows of glass beads. If there are 320 glass beads in each row, how many glass beads are in the shop?

There are _____ glass beads in the shop.

Write the equation. Then, solve each problem.

- 13.** The cafeteria planned to bake 3 chocolate chip cookies for every student in the school. If there are 715 students, how many cookies does the cafeteria need to bake?

The cafeteria needs to bake _____ cookies.

- 14.** Crystal and Eva have been working 10 hours every week on their oral report on Rosa Parks. If they work on the report for 5 weeks, how many hours will they work on the report?

They will work _____ hours on the report.

10.

11.

12.

13.

14.

Lesson 4.I Prime and Composite Numbers

A number is called **prime** if its only factors are 1 and itself.

For example, 7 is a prime number.
The only factors of 7 are 1 and 7.

A number is called **composite** if it has more than two factors.

For example, 8 is a composite number.
1, 2, 4, and 8 are all factors of 8.

List the factors of each number. Then, label each number as *prime* or *composite*.

	Factors	Prime or Composite?
1.	64	_____
2.	43	_____
3.	53	_____
4.	72	_____
5.	19	_____
6.	48	_____
7.	22	_____
8.	36	_____
9.	89	_____
10.	31	_____
11.	93	_____
12.	75	_____

Lesson 4.1 Prime and Composite Numbers

List the factors of each number. Then, label each number as *prime* or *composite*.

	Factors	Prime or Composite?
1.	80	_____
2.	55	_____
3.	28	_____
4.	67	_____
5.	88	_____
6.	73	_____
7.	54	_____
8.	95	_____
9.	18	_____
10.	91	_____
11.	57	_____
12.	13	_____
13.	61	_____
14.	77	_____
15.	33	_____
16.	23	_____

Lesson 4.2 Interpreting Equations**SHOW YOUR WORK**

Write the equation. Then, solve the problem.

- 1.** Reid is 3 years old. His sister is 4 times older. How old is Reid's sister?

She is 12 years old.

- 2.** Tia has 7 hair bows. Her sister has 6 times as many as Tia. How many hair bows does Tia's sister have?

She has _____ hair bows.

- 3.** Jay mows 1 lawn every day Monday through Saturday. He is paid \$25 for each lawn. How much money does Jay earn mowing lawns?

Jay earns \$ _____.

- 4.** Macon eats 33 animal crackers as a snack every day after school. How many animal crackers does he eat during a 5-day school week?

He eats _____ animal crackers.

- 5.** Melanie bought 7 packages of greeting cards. Each package had 9 cards. How many greeting cards did she get in all?

She got _____ greeting cards.

- 6.** Chris walked 4 miles a day for 21 days. How many miles did he walk in all?

He walked _____ miles.

1. $3 \times 4 = a$
 $a = 12$

2.

3.

4.

5.

6.

Lesson 4.3 Multiplying 2 Digits by 1 Digit

$$\begin{array}{r} 32 \\ \times 3 \\ \hline 6 \end{array}$$

Multiply 2 ones by 3.
 $2 \times 3 = 6$

$$\begin{array}{r} 32 \\ \times 3 \\ \hline 96 \end{array}$$

Multiply 3 tens by 3.
 $30 \times 3 = 90$

Multiply.

a
 1. $\begin{array}{r} 23 \\ \times 2 \\ \hline \end{array}$

b
 $\begin{array}{r} 71 \\ \times 1 \\ \hline \end{array}$

c
 $\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$

d
 $\begin{array}{r} 33 \\ \times 2 \\ \hline \end{array}$

e
 $\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$

f
 $\begin{array}{r} 24 \\ \times 2 \\ \hline \end{array}$

2. $\begin{array}{r} 44 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 90 \\ \times 1 \\ \hline \end{array}$

$\begin{array}{r} 22 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 12 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 14 \\ \times 2 \\ \hline \end{array}$

3. $\begin{array}{r} 11 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 75 \\ \times 1 \\ \hline \end{array}$

$\begin{array}{r} 11 \\ \times 6 \\ \hline \end{array}$

$\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 42 \\ \times 2 \\ \hline \end{array}$

4. $\begin{array}{r} 11 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 33 \\ \times 0 \\ \hline \end{array}$

$\begin{array}{r} 13 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 31 \\ \times 2 \\ \hline \end{array}$

5. $\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 41 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 13 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 40 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 11 \\ \times 5 \\ \hline \end{array}$

6. $\begin{array}{r} 30 \\ \times 1 \\ \hline \end{array}$

$\begin{array}{r} 11 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} 25 \\ \times 1 \\ \hline \end{array}$

$\begin{array}{r} 42 \\ \times 0 \\ \hline \end{array}$

$\begin{array}{r} 22 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 10 \\ \times 1 \\ \hline \end{array}$

7. $\begin{array}{r} 14 \\ \times 0 \\ \hline \end{array}$

$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$

$\begin{array}{r} 31 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 12 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 20 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$

Lesson 4.4 Multiplying 2 Digits by 1 Digit (renaming)

$$\begin{array}{r} \overset{1}{7}2 \\ \times 8 \\ \hline 6 \end{array}$$

Multiply 2 ones by 8.
 $2 \times 8 = 16$ or $10 + 6$
 6 ← Put 6 under the ones place.
 Add the 10 above the 7.

$$\begin{array}{r} \overset{1}{7}2 \\ \times 8 \\ \hline 5\ 7\ 6 \end{array}$$

Multiply 7 tens by 8.
 Then, add 1 ten.
 $70 \times 8 = 560 \rightarrow 560 + 10 = 570$

Multiply.

1. $\begin{array}{r} \text{a} \\ 73 \\ \times 4 \\ \hline \end{array}$

b. $\begin{array}{r} 25 \\ \times 2 \\ \hline \end{array}$

c. $\begin{array}{r} 36 \\ \times 3 \\ \hline \end{array}$

d. $\begin{array}{r} 52 \\ \times 5 \\ \hline \end{array}$

e. $\begin{array}{r} 23 \\ \times 4 \\ \hline \end{array}$

f. $\begin{array}{r} 42 \\ \times 5 \\ \hline \end{array}$

2. $\begin{array}{r} 19 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 26 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 68 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 54 \\ \times 5 \\ \hline \end{array}$

$\begin{array}{r} 47 \\ \times 8 \\ \hline \end{array}$

$\begin{array}{r} 33 \\ \times 4 \\ \hline \end{array}$

3. $\begin{array}{r} 32 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 48 \\ \times 8 \\ \hline \end{array}$

$\begin{array}{r} 52 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 34 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 17 \\ \times 5 \\ \hline \end{array}$

$\begin{array}{r} 22 \\ \times 5 \\ \hline \end{array}$

4. $\begin{array}{r} 66 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 45 \\ \times 5 \\ \hline \end{array}$

$\begin{array}{r} 66 \\ \times 5 \\ \hline \end{array}$

$\begin{array}{r} 19 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 38 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 74 \\ \times 3 \\ \hline \end{array}$

5. $\begin{array}{r} 55 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 64 \\ \times 8 \\ \hline \end{array}$

$\begin{array}{r} 83 \\ \times 5 \\ \hline \end{array}$

$\begin{array}{r} 49 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} 50 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 86 \\ \times 6 \\ \hline \end{array}$

6. $\begin{array}{r} 60 \\ \times 6 \\ \hline \end{array}$

$\begin{array}{r} 17 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 48 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 75 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 60 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 96 \\ \times 5 \\ \hline \end{array}$

7. $\begin{array}{r} 31 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 77 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 82 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 96 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 40 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} 79 \\ \times 2 \\ \hline \end{array}$

Lesson 4.5 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** There are 48 chicken farms near an Ohio town. If each farm has 9 barns, how many total barns are there?

There are _____ total barns.

- 2.** Mr. Ferris has a canoe rental business. Over the weekend, he rented 47 canoes. A canoe holds 3 people. If each canoe was full, how many people did Mr. Ferris rent to over the weekend?

Mr. Ferris rented to _____ people.

- 3.** The school planned for 92 students to attend the school dance. The school bought 4 slices of pizza for each student. How many slices did the school buy?

The school bought _____ slices.

- 4.** The pool opened on Memorial Day. Ninety-four people showed up. The pool manager gave out 2 vouchers to each person for free drinks. How many vouchers did the pool manager give out?

The manager gave out _____ vouchers.

- 5.** In the Sumton community, there are 56 houses. If there are 3 children living in each house, how many children live in houses in Sumton?

There are _____ children living in houses in Sumton.

- 6.** Deon and Denise are saving up to buy a computer game. If they put 23 dollars a week in the bank, how much money will they have in 5 weeks?

They will have _____ dollars.

1.

2.

3.

4.

5.

6.

Lesson 4.6

Multiplying 3 Digits by 1 Digit (renaming)

$$\begin{array}{r} 7 \overset{1}{5} 2 \\ \times 8 \\ \hline 6 \end{array}$$

Multiply 2 ones by 8.
Put 1 ten above the 5.

$$\begin{array}{r} 7 \overset{4}{5} 2 \\ \times 8 \\ \hline 16 \end{array}$$

Multiply 5 tens by 8. Then, add 1 ten.
Put 4 hundreds above the 7.

$$\begin{array}{r} 7 \overset{4}{5} 2 \\ \times 8 \\ \hline 6016 \end{array}$$

Multiply 7 hundreds by 8.
Then, add 4 hundreds.

Multiply.

a

$$\begin{array}{r} 118 \\ \times 3 \\ \hline \end{array}$$

b

$$\begin{array}{r} 305 \\ \times 4 \\ \hline \end{array}$$

c

$$\begin{array}{r} 224 \\ \times 5 \\ \hline \end{array}$$

d

$$\begin{array}{r} 152 \\ \times 3 \\ \hline \end{array}$$

e

$$\begin{array}{r} 200 \\ \times 7 \\ \hline \end{array}$$

f

$$\begin{array}{r} 137 \\ \times 5 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 327 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 158 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 235 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 142 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 580 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 129 \\ \times 9 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 335 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 190 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 421 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 201 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 287 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 243 \\ \times 4 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 405 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 118 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 402 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 498 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 700 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 398 \\ \times 2 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 652 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 142 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 704 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 193 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 246 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 152 \\ \times 7 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 704 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 751 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 200 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 555 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 909 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 730 \\ \times 7 \\ \hline \end{array}$$

Lesson 4.7 Multiplying 2 Digits by 2 Digits

$\begin{array}{r} 19 \\ \times 27 \\ \hline \end{array}$	<p>Multiply 9 ones by 7. Put 6 tens above the 1. Multiply 1 ten by 7. Then, add 6 tens.</p>	<p>Multiply 9 ones by 20. Put 1 hundred above the 1. Multiply 1 ten by 20. Then, add 1 hundred.</p>
--	---	---

$$\begin{array}{r}
 19 \\
 \times 27 \\
 \hline
 133 \\
 +380 \\
 \hline
 513
 \end{array}
 \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{Add.}$$

Multiply.

1. **a** $\begin{array}{r} 22 \\ \times 33 \\ \hline \end{array}$

b $\begin{array}{r} 11 \\ \times 45 \\ \hline \end{array}$

c $\begin{array}{r} 80 \\ \times 10 \\ \hline \end{array}$

d $\begin{array}{r} 31 \\ \times 23 \\ \hline \end{array}$

e $\begin{array}{r} 13 \\ \times 12 \\ \hline \end{array}$

f $\begin{array}{r} 30 \\ \times 31 \\ \hline \end{array}$

2. **a** $\begin{array}{r} 41 \\ \times 21 \\ \hline \end{array}$ **b** $\begin{array}{r} 32 \\ \times 20 \\ \hline \end{array}$ **c** $\begin{array}{r} 40 \\ \times 10 \\ \hline \end{array}$ **d** $\begin{array}{r} 21 \\ \times 31 \\ \hline \end{array}$ **e** $\begin{array}{r} 30 \\ \times 30 \\ \hline \end{array}$ **f** $\begin{array}{r} 14 \\ \times 10 \\ \hline \end{array}$

3. **a** $\begin{array}{r} 22 \\ \times 44 \\ \hline \end{array}$ **b** $\begin{array}{r} 14 \\ \times 20 \\ \hline \end{array}$ **c** $\begin{array}{r} 40 \\ \times 12 \\ \hline \end{array}$ **d** $\begin{array}{r} 90 \\ \times 10 \\ \hline \end{array}$ **e** $\begin{array}{r} 13 \\ \times 13 \\ \hline \end{array}$ **f** $\begin{array}{r} 30 \\ \times 11 \\ \hline \end{array}$

4. **a** $\begin{array}{r} 70 \\ \times 11 \\ \hline \end{array}$ **b** $\begin{array}{r} 12 \\ \times 11 \\ \hline \end{array}$ **c** $\begin{array}{r} 81 \\ \times 10 \\ \hline \end{array}$ **d** $\begin{array}{r} 24 \\ \times 12 \\ \hline \end{array}$ **e** $\begin{array}{r} 40 \\ \times 22 \\ \hline \end{array}$ **f** $\begin{array}{r} 31 \\ \times 31 \\ \hline \end{array}$

Lesson 4.8 Multiplying 2 Digits by 2 Digits (renaming)

Multiply.

a
1.
$$\begin{array}{r} 22 \\ \times 19 \\ \hline \end{array}$$

b
$$\begin{array}{r} 32 \\ \times 41 \\ \hline \end{array}$$

c
$$\begin{array}{r} 72 \\ \times 18 \\ \hline \end{array}$$

d
$$\begin{array}{r} 45 \\ \times 15 \\ \hline \end{array}$$

e
$$\begin{array}{r} 48 \\ \times 20 \\ \hline \end{array}$$

f
$$\begin{array}{r} 77 \\ \times 22 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 63 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ \times 48 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ \times 29 \\ \hline \end{array}$$

$$\begin{array}{r} 90 \\ \times 70 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 57 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ \times 18 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ \times 27 \\ \hline \end{array}$$

$$\begin{array}{r} 65 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} 88 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 90 \\ \times 20 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 37 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ \times 13 \\ \hline \end{array}$$

$$\begin{array}{r} 88 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} 55 \\ \times 38 \\ \hline \end{array}$$

Lesson 4.9 Multiplying 3 Digits by 2 Digits (renaming)

Multiply.

a
1.
$$\begin{array}{r} 315 \\ \times 30 \\ \hline \end{array}$$

b

$$\begin{array}{r} 527 \\ \times 42 \\ \hline \end{array}$$

c

$$\begin{array}{r} 287 \\ \times 21 \\ \hline \end{array}$$

d

$$\begin{array}{r} 242 \\ \times 70 \\ \hline \end{array}$$

e

$$\begin{array}{r} 209 \\ \times 30 \\ \hline \end{array}$$

f

$$\begin{array}{r} 813 \\ \times 17 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 140 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 196 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 673 \\ \times 92 \\ \hline \end{array}$$

$$\begin{array}{r} 542 \\ \times 48 \\ \hline \end{array}$$

$$\begin{array}{r} 604 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 150 \\ \times 45 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 713 \\ \times 67 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ \times 42 \\ \hline \end{array}$$

$$\begin{array}{r} 198 \\ \times 72 \\ \hline \end{array}$$

$$\begin{array}{r} 513 \\ \times 58 \\ \hline \end{array}$$

$$\begin{array}{r} 841 \\ \times 71 \\ \hline \end{array}$$

$$\begin{array}{r} 379 \\ \times 84 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 125 \\ \times 73 \\ \hline \end{array}$$

$$\begin{array}{r} 706 \\ \times 31 \\ \hline \end{array}$$

$$\begin{array}{r} 448 \\ \times 33 \\ \hline \end{array}$$

$$\begin{array}{r} 809 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 615 \\ \times 73 \\ \hline \end{array}$$

$$\begin{array}{r} 458 \\ \times 83 \\ \hline \end{array}$$

Lesson 4.10 Multiplying 4 Digits by 1 Digit (renaming)

1.
$$\begin{array}{r} 8,2\overset{2}{0}8 \\ \times 3 \\ \hline 4 \end{array}$$
 Multiply 8 ones by 3.
Put 2 tens above the 0.

2.
$$\begin{array}{r} 8,2\overset{2}{0}8 \\ \times 3 \\ \hline 24 \end{array}$$
 Multiply 0 tens by 3.
Then, add 2 tens.

3.
$$\begin{array}{r} 8,2\overset{2}{0}8 \\ \times 3 \\ \hline 624 \end{array}$$
 Multiply 2 hundreds
by 3.

4.
$$\begin{array}{r} 8,2\overset{2}{0}8 \\ \times 3 \\ \hline 24,624 \end{array}$$
 Multiply 8 thousands
by 3.

Multiply.

a**b****c****d****e****f**

1.
$$\begin{array}{r} 4,393 \\ \times 7 \\ \hline \end{array}$$

b
$$\begin{array}{r} 4,755 \\ \times 7 \\ \hline \end{array}$$

c
$$\begin{array}{r} 7,096 \\ \times 5 \\ \hline \end{array}$$

d
$$\begin{array}{r} 2,632 \\ \times 4 \\ \hline \end{array}$$

e
$$\begin{array}{r} 3,054 \\ \times 2 \\ \hline \end{array}$$

f
$$\begin{array}{r} 5,321 \\ \times 5 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 9,443 \\ \times 2 \\ \hline \end{array}$$

b
$$\begin{array}{r} 6,356 \\ \times 5 \\ \hline \end{array}$$

c
$$\begin{array}{r} 7,553 \\ \times 3 \\ \hline \end{array}$$

d
$$\begin{array}{r} 5,448 \\ \times 1 \\ \hline \end{array}$$

e
$$\begin{array}{r} 4,321 \\ \times 7 \\ \hline \end{array}$$

f
$$\begin{array}{r} 1,496 \\ \times 9 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 5,418 \\ \times 3 \\ \hline \end{array}$$

b
$$\begin{array}{r} 1,010 \\ \times 5 \\ \hline \end{array}$$

c
$$\begin{array}{r} 5,166 \\ \times 6 \\ \hline \end{array}$$

d
$$\begin{array}{r} 2,209 \\ \times 5 \\ \hline \end{array}$$

e
$$\begin{array}{r} 1,405 \\ \times 8 \\ \hline \end{array}$$

f
$$\begin{array}{r} 3,630 \\ \times 8 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 2,887 \\ \times 1 \\ \hline \end{array}$$

b
$$\begin{array}{r} 3,117 \\ \times 8 \\ \hline \end{array}$$

c
$$\begin{array}{r} 8,412 \\ \times 1 \\ \hline \end{array}$$

d
$$\begin{array}{r} 6,348 \\ \times 3 \\ \hline \end{array}$$

e
$$\begin{array}{r} 2,341 \\ \times 4 \\ \hline \end{array}$$

f
$$\begin{array}{r} 8,115 \\ \times 6 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 8,108 \\ \times 4 \\ \hline \end{array}$$

b
$$\begin{array}{r} 1,564 \\ \times 4 \\ \hline \end{array}$$

c
$$\begin{array}{r} 5,084 \\ \times 4 \\ \hline \end{array}$$

d
$$\begin{array}{r} 8,564 \\ \times 6 \\ \hline \end{array}$$

e
$$\begin{array}{r} 2,050 \\ \times 8 \\ \hline \end{array}$$

f
$$\begin{array}{r} 3,421 \\ \times 6 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 8,402 \\ \times 4 \\ \hline \end{array}$$

b
$$\begin{array}{r} 1,763 \\ \times 8 \\ \hline \end{array}$$

c
$$\begin{array}{r} 9,536 \\ \times 5 \\ \hline \end{array}$$

d
$$\begin{array}{r} 2,910 \\ \times 9 \\ \hline \end{array}$$

e
$$\begin{array}{r} 6,478 \\ \times 2 \\ \hline \end{array}$$

f
$$\begin{array}{r} 5,467 \\ \times 1 \\ \hline \end{array}$$

Lesson 4.11 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Xavier loves to eat pears. He ate 2 a day for 48 days. How many pears did Xavier eat?

Xavier ate _____ pears.

1.

- 2.** Clayton keeps pet mice. If his 33 mice have 12 babies each, how many mice will Clayton have in all?

Clayton will have _____ mice.

2.

- 3.** In a tropical rain forest, the average annual rainfall is about 150 inches. After 5 years, about how much rain will have fallen in the rain forest?

About _____ inches of rain will have fallen.

3.

- 4.** A school of 2,368 students went on a field trip to collect seashells. If the students collected 3 shells each, how many shells did they collect?

The students collected _____ shells.

4.

- 5.** Buses were reserved for the big field trip. If each bus holds 20 students, how many students would 6 buses hold?

The buses would hold _____ students.

5.

- 6.** If 16 potato chips is a serving size and there are 5 servings per bag, how many potato chips are in each bag?

There are _____ chips in a bag.

6.



Check What You Learned

Multiplication

Multiply.

1. **a** **b** **c** **d** **e** **f** **g**

$$\begin{array}{r} 72 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 339 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 150 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 333 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ \times 2 \\ \hline \end{array}$$

2. **2** **3** **4** **5** **6** **7** **8**

$$\begin{array}{r} 242 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 300 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 173 \\ \times 28 \\ \hline \end{array}$$

$$\begin{array}{r} 90 \\ \times 8 \\ \hline \end{array}$$

3. **9** **10** **11** **12** **13** **14** **15**

$$\begin{array}{r} 3,417 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 728 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 207 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 79 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 643 \\ \times 7 \\ \hline \end{array}$$

4. **16** **17** **18** **19** **20** **21** **22**

$$\begin{array}{r} 743 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 439 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 117 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 943 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2,981 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 200 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 555 \\ \times 40 \\ \hline \end{array}$$

List the factors of each number. Then, label each number as *prime* or *composite*.

	Factors	Prime or Composite?
5.	85 _____	_____
6.	59 _____	_____
7.	15 _____	_____
8.	26 _____	_____



Check What You Learned

SHOW YOUR WORK

Multiplication

Solve each problem.

- 9.** Mrs. Rockwell checked on how much time her students spend doing homework. If all 23 students spend 20 hours a week, how much homework do the students do in a week?

They do _____ hours of homework a week.

- 10.** A cable program loans channel boxes to 21 community centers for a trial program. If there are 12 boxes for each center, how many boxes are being loaned?

There are _____ boxes being loaned.

- 11.** A girls' club is trying to get into the record books for the most hair braids. There are 372 girls. If each girl braids her hair into 40 little braids, how many braids will they have?

They will have _____ braids.

Write the equation. Then, solve the problem.

- 12.** Mrs. Numkena's science class raised tadpoles. If 35 students raised 23 tadpoles each, how many tadpoles did the class have?

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

The class had _____ tadpoles.

- 13.** At Lakeside View, 15 apartment houses were built. If there are 12 units to each apartment house, how many units are available?

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

There are _____ units available.

9.**10.****11.****12.****13.**



Check What You Know

Division

Divide.

a**b****c****d****e**

1. $3\overline{)15}$

7. 49

9. 27

5. 45

7. 21

2. $3\overline{)18}$

7. 42

9. 81

7. 56

3. 30

3. $4\overline{)36}$

4. 16

4. 46

2. 10

6. 36

4. $9\overline{)18}$

5. 35

7. 28

2. 6

4. 24

5. $9\overline{)87}$

7. 77

2. 50

2. 175

3. 900

6. $3\overline{)45}$

5. 105

5. 500

8. 78

3. 68

7. $5\overline{)2,214}$

6. 121

7. 62

7. 22

5. $4,693$



Check What You Know

Division

SHOW YOUR WORK

Solve each problem.

- 8.** Lori found 42 shells at the beach. She gave the same number of shells to 7 of her friends. How many shells did she give to each friend?

She gave _____ shells to each friend.

- 9.** The drama club is giving a party in the school lunchroom. The club wants to be seated in groups of 8. If 64 students go to the party, how many groups of students will there be?

There will be _____ groups of students.

- 10.** The Pancake Restaurant served 32 pancakes. If 8 customers ate an equal number of pancakes, how many did each person eat?

Each person ate _____ pancakes.

- 11.** The school spirit club baked cakes for a charity event. There were 75 different cakes and 5 bakers. Each baker baked the same number of cakes. How many cakes did each baker make?

Each baker made _____ cakes.

- 12.** The Fish Shop is open 72 hours a week. The shop is open 6 days a week and the same number of hours each day. How many hours each day is the shop open?

The shop is open _____ hours a day.

- 13.** The glee club needs to sell 382 tickets to win a trip. If there are 8 members who want to go on the trip, how many tickets does each member need to sell? How many extra tickets are left?

Each member needs to sell _____ tickets.

There will be _____ extra tickets.

8.

9.

10.

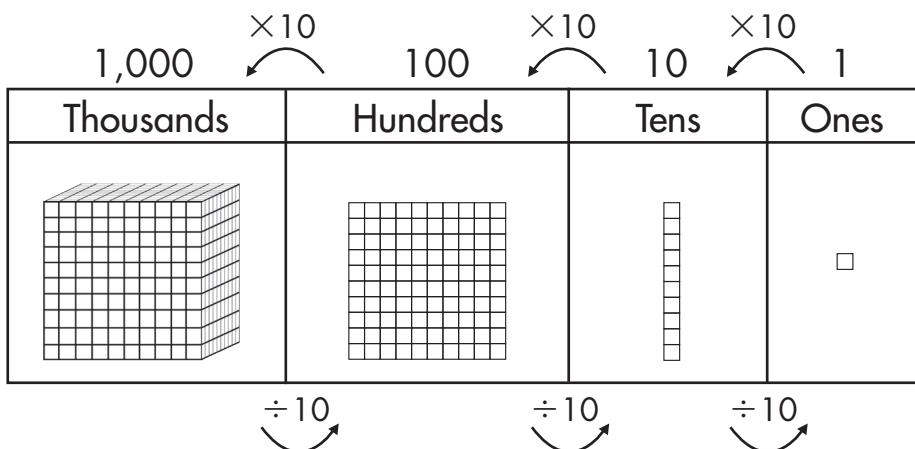
11.

12.

13.

Lesson 5.1

Dividing Multiples of 10 and 100



Division is the opposite of multiplication.

$$700 \div 70 = \underline{10}$$

Divide.

a

b

c

d

1. $300 \div 3 =$ $60 \div 6 =$ $100 \div 10 =$ $20 \div 10 =$

2. $800 \div 80 =$ $700 \div 10 =$ $4,000 \div 400 =$ $50 \div 10 =$

3. $3,000 \div 10 =$ $400 \div 40 =$ $1,000 \div 10 =$ $80 \div 8 =$

4. $600 \div 10 =$ $70 \div 7 =$ $9,000 \div 900 =$ $500 \div 10 =$

5. $40 \div 10 =$ $7,000 \div 700 =$ $200 \div 10 =$ $90 \div 10 =$

Lesson 5.2 Dividing through $45 \div 5$

divisor \longrightarrow $5) \overline{45}$ $\begin{matrix} 9 \\ \longleftarrow \text{quotient} \\ \longleftarrow \text{dividend} \end{matrix}$

To check your answer, do the inverse operation.

If $45 \div 5 = 9$, then $5 \times 9 = 45$ must be true.

Using the division table, find 45 in the 5 column. The quotient is named at the beginning of the row.

5-column (divisors)										
x	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

Divide.

- | a | b | c | d | e | f |
|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1. $5) \overline{35}$ | $4) \overline{16}$ | $4) \overline{36}$ | $3) \overline{18}$ | $5) \overline{25}$ | $4) \overline{28}$ |
| 2. $2) \overline{18}$ | $3) \overline{18}$ | $3) \overline{27}$ | $3) \overline{12}$ | $5) \overline{20}$ | $3) \overline{21}$ |
| 3. $5) \overline{45}$ | $3) \overline{15}$ | $5) \overline{30}$ | $4) \overline{32}$ | $2) \overline{8}$ | $2) \overline{10}$ |
| 4. $2) \overline{16}$ | $2) \overline{12}$ | $4) \overline{4}$ | $5) \overline{35}$ | $2) \overline{18}$ | $5) \overline{40}$ |
| 5. $5) \overline{30}$ | $4) \overline{24}$ | $3) \overline{24}$ | $4) \overline{20}$ | $3) \overline{9}$ | $4) \overline{12}$ |
| 6. $2) \overline{14}$ | $4) \overline{4}$ | $5) \overline{15}$ | $5) \overline{10}$ | $4) \overline{0}$ | $3) \overline{6}$ |

Complete the following.

a	b	c	d
$ \begin{array}{r} 5 \\ \times 3 \\ \hline 15 \quad \text{so } 3) \overline{15} \end{array} $	$ \begin{array}{r} 4 \\ \times 7 \\ \hline 28 \quad \text{so } 7) \overline{28} \end{array} $	$ \begin{array}{r} 3 \\ \times 4 \\ \hline 12 \quad \text{so } 4) \overline{12} \end{array} $	$ \begin{array}{r} 9 \\ \times 2 \\ \hline 18 \quad \text{so } 2) \overline{18} \end{array} $

Lesson 5.3

Dividing through $63 \div 7$

divisor $\longrightarrow 7) \overline{63}$ ← quotient
 ← dividend

To check your answer, do the inverse operation.

If $63 \div 7 = 9$, then $7 \times 9 = 63$
must be true.

Using the division table, find 63 in the 7 column. The quotient is named at the beginning of the row.

7-column ↓

x	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

quotient →

Divide.

a**b****c****d****e****f**

1. $7) \overline{49}$

5. $5) \overline{45}$

6. $6) \overline{36}$

3. $3) \overline{24}$

5. $3) \overline{27}$

4. $4) \overline{28}$

2. $2) \overline{18}$

4. $4) \overline{24}$

6. $6) \overline{48}$

4. $4) \overline{32}$

5. $5) \overline{45}$

2. $2) \overline{16}$

3. $5) \overline{40}$

2. $2) \overline{12}$

6. $6) \overline{6}$

7. $7) \overline{56}$

7. $7) \overline{0}$

6. $6) \overline{54}$

4. $5) \overline{25}$

5. $5) \overline{10}$

7. $7) \overline{21}$

7. $7) \overline{28}$

6. $6) \overline{42}$

7. $7) \overline{63}$

5. $6) \overline{24}$

4. $4) \overline{20}$

7. $7) \overline{35}$

5. $5) \overline{30}$

4. $4) \overline{12}$

4. $4) \overline{16}$

6. $7) \overline{7}$

5. $5) \overline{15}$

7. $7) \overline{42}$

3. $3) \overline{21}$

6. $6) \overline{12}$

6. $6) \overline{30}$

Complete the following.

a

$$\begin{array}{r}
 7 \\
 \times 6 \\
 \hline
 42 \quad \text{so } 6) \overline{42}
 \end{array}$$

b

$$\begin{array}{r}
 4 \\
 \times 6 \\
 \hline
 24 \quad \text{so } 6) \overline{24}
 \end{array}$$

c

$$\begin{array}{r}
 8 \\
 \times 7 \\
 \hline
 56 \quad \text{so } 7) \overline{56}
 \end{array}$$

Lesson 5.4 Dividing through $81 \div 9$

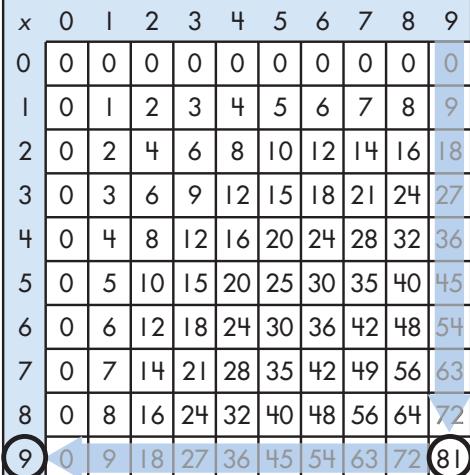
divisor \longrightarrow $9\overline{)81}$ ← quotient
 dividend

To check your answer, do the inverse operation.

If $81 \div 9 = 9$, then $9 \times 9 = 81$ must be true.

Using the division table, find 81 in the 9 column. The quotient is named at the beginning of the row.

9-column



x	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

Divide.

- | | a | b | c | d | e | f |
|----|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1. | $9\overline{)72}$ | $8\overline{)40}$ | $8\overline{)24}$ | $6\overline{)48}$ | $7\overline{)28}$ | $6\overline{)36}$ |
| 2. | $6\overline{)18}$ | $3\overline{)21}$ | $7\overline{)49}$ | $9\overline{)54}$ | $9\overline{)81}$ | $4\overline{)32}$ |
| 3. | $5\overline{)35}$ | $7\overline{)56}$ | $9\overline{)18}$ | $7\overline{)42}$ | $9\overline{)36}$ | $7\overline{)28}$ |
| 4. | $9\overline{)45}$ | $5\overline{)30}$ | $4\overline{)12}$ | $5\overline{)25}$ | $7\overline{)14}$ | $9\overline{)0}$ |
| 5. | $9\overline{)9}$ | $8\overline{)40}$ | $8\overline{)48}$ | $6\overline{)42}$ | $3\overline{)27}$ | $4\overline{)28}$ |

Complete the following.

- | | a | b | c |
|----|--|--|--|
| 6. | $\begin{array}{r} 7 \\ \times 5 \\ \hline 35 \end{array}$ so $5\overline{)35}$ | $\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$ so $8\overline{)64}$ | $\begin{array}{r} 9 \\ \times 6 \\ \hline 54 \end{array}$ so $6\overline{)54}$ |
| 7. | $\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$ so $4\overline{)36}$ | $\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$ so $4\overline{)24}$ | $\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$ so $8\overline{)48}$ |

Lesson 5.5 Division Practice

Divide.

a**b****c****d****e**

1. $8\overline{)56}$

6)24

2)18

5)35

7)42

2. $6\overline{)48}$

6)30

8)72

6)36

9)81

3. $9\overline{)54}$

3)21

7)28

3)18

2)18

4. $5\overline{)45}$

9)36

6)42

8)64

7)63

5. $3\overline{)24}$

9)27

5)20

7)49

5)25

6. $5\overline{)40}$

7)14

9)81

9)0

4)16

Lesson 5.6 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Eddie and Toru listened to 72 of their favorite songs. If there were 9 songs on each album, how many albums did they listen to?

They listened to _____ albums.

- 2.** Mr. Luiz printed 35 tests for his students. If there were 7 rows of students, how many tests were passed out to each row?

There were _____ tests passed out to each row.

- 3.** Gary opened a bag of candy containing 81 pieces. He wants to give each of his guests the same number of pieces. If he has 9 guests, how many pieces does each person get?

Each guest gets _____ pieces.

- 4.** Last year, Mrs. Ford decided to give chores to each person in the family. Each person got the same number of chores. There are 8 family members. If there were 32 chores, how many did each person get?

Each person got _____ chores.

- 5.** It takes 16 hours to drive to the dunes. Tasha and her brother Kurt will drive the same number of hours. How many hours will each of them drive?

Each of them will drive _____ hours.

- 6.** The warehouse has 63 boxes of cat litter. The same number of boxes will be sent to 9 stores. How many boxes will each store get?

Each store will get _____ boxes.

1.

2.

3.

4.

5.

6.

Lesson 5.7

Dividing 2 Digits

\times	1	2	3	4	5
8	8	16	24	32	40

$$\begin{array}{r}
 8 \times 4 = 32 \\
 \begin{array}{r}
 8) \overline{3}3 \\
 -32 \\
 \hline
 1
 \end{array}
 \end{array}$$

Subtract.

33 is between 32 and 40, so $33 \div 8$ is between 4 and 5.
The ones digit is 4.

Since $33 - 32 = 1$ and 1 is less than 8, the remainder 1 is recorded like this:

$$\begin{array}{r}
 8) \overline{3}3 \\
 -32 \\
 \hline
 1
 \end{array}$$

↑
r

Divide.

a**b****c****d****e**

1. $5) \overline{26}$

b. $7) \overline{58}$

c. $4) \overline{31}$

d. $9) \overline{82}$

e. $6) \overline{35}$

2. $8) \overline{66}$

b. $3) \overline{17}$

c. $2) \overline{13}$

d. $7) \overline{50}$

e. $6) \overline{40}$

3. $9) \overline{30}$

b. $5) \overline{41}$

c. $3) \overline{10}$

d. $8) \overline{73}$

e. $7) \overline{57}$

4. $8) \overline{20}$

b. $6) \overline{37}$

c. $9) \overline{55}$

d. $7) \overline{29}$

e. $5) \overline{47}$

Lesson 5.7

Dividing 2 Digits

$$\begin{array}{r} \times \\ \hline 10 & 20 & 30 \\ \hline 3 & 30 & 60 & 90 \end{array}$$

$3 \times 20 = 60$
 Subtract. $\begin{array}{r} 2 \\ 3 \overline{) 67 } \\ - 60 \\ \hline 7 \end{array}$

67 is between 60 and 90, so $67 \div 3$ is between 20 and 30. The tens digit is 2.

$$\begin{array}{r} \times \\ \hline 1 & 2 & 3 \\ \hline 3 & 3 & 6 & 9 \end{array}$$

$$\begin{array}{r} 22 \text{ r}1 \\ 3 \overline{) 67 } \\ - 60 \\ \hline 7 \\ - 6 \\ \hline 1 \end{array}$$

$3 \times 2 = 6$, so the ones digit is 2.
 $3 \times 2 = 6$
 Subtract.
 remainder

Divide.

- | a | b | c | d | e |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1. $2\overline{) 36 }$ | 5. $5\overline{) 76 }$ | 7. $7\overline{) 79 }$ | 4. $4\overline{) 96 }$ | 7. $7\overline{) 93 }$ |
| 2. $5\overline{) 86 }$ | 3. $3\overline{) 96 }$ | 8. $8\overline{) 99 }$ | 7. $7\overline{) 84 }$ | 3. $3\overline{) 75 }$ |
| 3. $6\overline{) 93 }$ | 6. $6\overline{) 73 }$ | 8. $8\overline{) 89 }$ | 7. $7\overline{) 89 }$ | 9. $9\overline{) 99 }$ |
| 4. $4\overline{) 88 }$ | 3. $3\overline{) 84 }$ | 2. $2\overline{) 77 }$ | 4. $4\overline{) 78 }$ | 8. $8\overline{) 93 }$ |

Lesson 5.8 Dividing 3 Digits

Since $100 \times 8 = 800$ and 800 is greater than 453, there is no hundreds digit.

$$8) \overline{453}$$

\times	10	20	30	40	50	60
8	80	160	240	320	400	480

453 is between 400 and 480. $453 \div 8$ is between 50 and 60. The tens digit is 5.

$$\begin{array}{r} 5 \\ 8) \overline{453} \\ -40 \\ \hline 53 \end{array} \quad \text{Subtract.}$$

\times	1	2	3	4	5	6	7
8	8	16	24	32	40	48	56

53 is between 48 and 56. $53 \div 8$ is between 6 and 7. The ones digit is 6.

$$\begin{array}{r} 56\text{r}5 \\ 8) \overline{453} \\ -40 \\ \hline 53 \\ -48 \\ \hline 5 \end{array} \quad \begin{array}{l} 8 \times 6 = 48 \\ \text{Subtract.} \\ \text{remainder} \end{array}$$

Divide.

a

1. $8) \overline{720}$

b

$4) \overline{327}$

c

$9) \overline{372}$

d

$4) \overline{173}$

e

$2) \overline{150}$

2. $6) \overline{552}$

$3) \overline{139}$

$4) \overline{248}$

$9) \overline{890}$

$5) \overline{105}$

3. $9) \overline{780}$

$5) \overline{225}$

$9) \overline{813}$

$7) \overline{511}$

$3) \overline{110}$

Lesson 5.8 Dividing 3 Digits

Divide.

a**b****c****d****e**

1. $6\overline{)773}$

2. $2\overline{)898}$

4. $4\overline{)566}$

6. $6\overline{)781}$

3. $3\overline{)972}$

2. $2\overline{)317}$

4. $4\overline{)732}$

9. $9\overline{)989}$

7. $7\overline{)897}$

2. $2\overline{)394}$

3. $5\overline{)529}$

8. $8\overline{)897}$

3. $3\overline{)676}$

2. $2\overline{)348}$

6. $6\overline{)930}$

4. $3\overline{)784}$

5. $5\overline{)788}$

3. $3\overline{)481}$

5. $5\overline{)558}$

2. $2\overline{)610}$

5. $3\overline{)324}$

5. $5\overline{)953}$

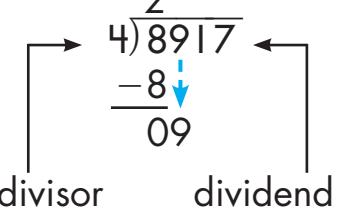
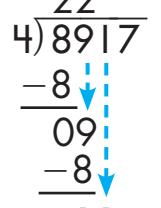
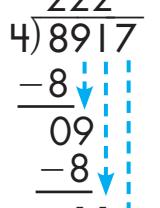
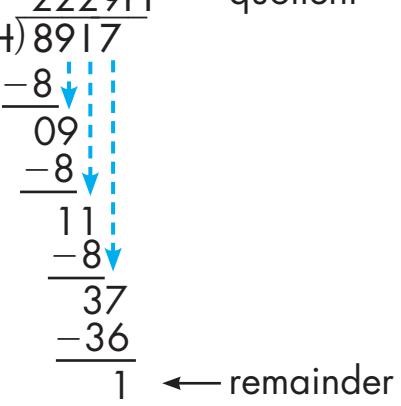
4. $4\overline{)868}$

3. $3\overline{)975}$

6. $6\overline{)720}$

Lesson 5.9

Dividing 4 Digits

$8 \div 4 = 2$ $4 \times 2 = 8$	$9 \div 4 = 2$ remainder 1	$11 \div 4 = 2$ remainder 3	$37 \div 4 = 9$ remainder 1
			

Divide.

a**b****c****d****e**

1. $2\overline{)2,612}$

b. $5\overline{)8,603}$

c. $4\overline{)8,263}$

d. $3\overline{)6,363}$

e. $7\overline{)6,137}$

2. $6\overline{)6,219}$

b. $2\overline{)4,921}$

c. $8\overline{)9,061}$

d. $9\overline{)1,616}$

e. $3\overline{)8,813}$

3. $2\overline{)3,164}$

b. $5\overline{)8,373}$

c. $7\overline{)3,029}$

d. $4\overline{)7,176}$

e. $3\overline{)1,256}$

Lesson 5.9 Dividing 4 Digits

$$21 \div 6 = 3 \\ \text{remainder } 3$$

$$\begin{array}{r} 3 \\ 6 \overline{)2142} \\ -18 \\ \hline 34 \end{array}$$

$$34 \div 6 = 5 \\ \text{remainder } 4$$

$$\begin{array}{r} 35 \\ 6 \overline{)2142} \\ -18 \\ \hline 34 \\ -30 \\ \hline 42 \end{array}$$

$$42 \div 6 = 7$$

$$\begin{array}{r} 357 \\ 6 \overline{)2142} \\ -18 \\ \hline 34 \\ -30 \\ \hline 42 \\ -42 \\ \hline 0 \end{array}$$

Divide.

a**b****c****d****e**

1. $4\overline{)4,783}$

b $4\overline{)1,207}$

c $5\overline{)3,901}$

d $2\overline{)9,131}$

e $5\overline{)3,197}$

2. $2\overline{)6,641}$

b $7\overline{)3,440}$

c $5\overline{)5,517}$

d $8\overline{)4,304}$

e $3\overline{)6,365}$

3. $3\overline{)8,421}$

b $1\overline{)7,412}$

c $2\overline{)2,258}$

d $1\overline{)7,293}$

e $2\overline{)8,473}$

Lesson 5.10 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Ms. Garrett had 40 guests at her birthday party. She cut her cake into 88 slices. Each guest ate 2 pieces of cake. How many slices were left?

There were _____ slices left.

1.

- 2.** Lucy babysits for 2 families. She works the same number of hours each month for each family. If she worked 76 hours last month, how many hours did she work for each family?

She worked _____ hours for each family.

2.

- 3.** The garden show is moving into a bigger area. The new space has 935 square feet of space for displays. There are 8 different displays, and each display will need the same amount of space. How many square feet does each display get? How many square feet are left over?

Each display gets _____ square feet of space.

3.

There are _____ square feet of space left over.

- 4.** A boys' club picked up litter in the park. They collected 913 bags of litter. If each boy collected the same amount, how many bags did the 7 boys collect? How many extra bags were collected?

Each boy picked up _____ bags.

4.

There were _____ extra bags collected.

- 5.** The school supply store received a shipment of 3,650 pens. If the pens are packed in 5 boxes, how many pens are in each box?

There are _____ pens in each box.

5.



Check What You Learned

Division

Divide.

a**b****c****d****e**

1. $3\overline{)18}$

9. $27\overline{)}27$

7. $7\overline{)7}$

8. $64\overline{)}64$

4. $40\overline{)}40$

2. $9\overline{)72}$

6. $36\overline{)}36$

8. $16\overline{)}16$

7. $21\overline{)}21$

4. $28\overline{)}28$

3. $5\overline{)25}$

8. $64\overline{)}64$

9. $54\overline{)}54$

5. $35\overline{)}35$

3. $12\overline{)}12$

4. $7\overline{)49}$

9. $9\overline{)9}$

7. $21\overline{)}21$

2. $18\overline{)}18$

3. $18\overline{)}18$

5. $2\overline{)96}$

3. $87\overline{)}87$

8. $93\overline{)}93$

30. $300\overline{)}300$

7. $31\overline{)}31$

6. $8\overline{)75}$

2. $19\overline{)}19$

8. $43\overline{)}43$

9. $89\overline{)}89$

3. $66\overline{)}66$

7. $3\overline{)6,118}$

5. $917\overline{)}917$

6. $762\overline{)}762$

7. $37\overline{)}37$

2. $48\overline{)}48$



Check What You Learned

Division

SHOW YOUR WORK

Solve each problem.

8. A group of 7 boys cut lawns over the weekend. They made 56 dollars. Each boy will make the same amount. How much money will each boy get?

Each boy will get _____ dollars.

9. Gloria decided to make lemonade for her family. There are 8 people in her family. The pitcher will hold 24 glasses of lemonade. How many glasses can each person have?

Each person can have _____ glasses.

10. Susan, Marta, and Aisha have 5 hours to spend at the zoo. There are 40 different animals they want to see. During each hour at the zoo, how many animals should they plan to see?

They should plan to see _____ different animals each hour.

11. At baseball practice, 325 pitches were thrown to the players. If 5 players got the same number of pitches, how many pitches did each player get?

Each player got _____ pitches.

12. Taylor needs 612 more dollars to buy a plane ticket to visit his cousin in Australia. If he saves 9 dollars a day, how soon can he go to Australia?

He will have the rest of the money in _____ days.

13. The bait shop ordered 136 fishing worms for their customers. The workers put them into 8 separate cups. How many worms are in each cup?

There are _____ worms in each cup.

8.

9.

10.

11.

12.

13.

Mid-Test Chapters 1–5

Add or subtract.

a
1.
$$\begin{array}{r} 23 \\ + 2 \\ \hline \end{array}$$

b
$$\begin{array}{r} 33 \\ + 6 \\ \hline \end{array}$$

c
$$\begin{array}{r} 17 \\ + 2 \\ \hline \end{array}$$

d
$$\begin{array}{r} 32 \\ + 7 \\ \hline \end{array}$$

e
$$\begin{array}{r} 61 \\ + 5 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 14 \\ + 5 \\ \hline \end{array}$$

73
$$\begin{array}{r} 73 \\ + 1 \\ \hline \end{array}$$

80
$$\begin{array}{r} 80 \\ + 9 \\ \hline \end{array}$$

52
$$\begin{array}{r} 52 \\ + 7 \\ \hline \end{array}$$

71
$$\begin{array}{r} 71 \\ + 8 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 23 \\ + 7 \\ \hline \end{array}$$

82
$$\begin{array}{r} 82 \\ + 9 \\ \hline \end{array}$$

74
$$\begin{array}{r} 74 \\ + 7 \\ \hline \end{array}$$

31
$$\begin{array}{r} 31 \\ + 9 \\ \hline \end{array}$$

33
$$\begin{array}{r} 33 \\ + 8 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 38 \\ + 5 \\ \hline \end{array}$$

57
$$\begin{array}{r} 57 \\ + 8 \\ \hline \end{array}$$

86
$$\begin{array}{r} 86 \\ + 8 \\ \hline \end{array}$$

72
$$\begin{array}{r} 72 \\ + 9 \\ \hline \end{array}$$

24
$$\begin{array}{r} 24 \\ + 9 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 32 \\ - 1 \\ \hline \end{array}$$

86
$$\begin{array}{r} 86 \\ - 14 \\ \hline \end{array}$$

25
$$\begin{array}{r} 25 \\ - 15 \\ \hline \end{array}$$

87
$$\begin{array}{r} 87 \\ - 34 \\ \hline \end{array}$$

97
$$\begin{array}{r} 97 \\ - 65 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 74 \\ - 8 \\ \hline \end{array}$$

93
$$\begin{array}{r} 93 \\ - 9 \\ \hline \end{array}$$

17
$$\begin{array}{r} 17 \\ - 8 \\ \hline \end{array}$$

63
$$\begin{array}{r} 63 \\ - 8 \\ \hline \end{array}$$

38
$$\begin{array}{r} 38 \\ - 19 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 52 \\ + 17 \\ \hline \end{array}$$

32
$$\begin{array}{r} 17 \\ + 10 \\ \hline \end{array}$$

37
$$\begin{array}{r} 37 \\ + 25 \\ \hline \end{array}$$

43
$$\begin{array}{r} 21 \\ + 18 \\ \hline \end{array}$$

73
$$\begin{array}{r} 73 \\ + 26 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 36 \\ + 13 \\ \hline \end{array}$$

75
$$\begin{array}{r} 75 \\ + 18 \\ \hline \end{array}$$

41
$$\begin{array}{r} 41 \\ + 39 \\ \hline \end{array}$$

57
$$\begin{array}{r} 57 \\ + 18 \\ \hline \end{array}$$

37
$$\begin{array}{r} 37 \\ + 28 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 320 \\ - 18 \\ \hline \end{array}$$

715
$$\begin{array}{r} 715 \\ - 23 \\ \hline \end{array}$$

287
$$\begin{array}{r} 287 \\ - 78 \\ \hline \end{array}$$

555
$$\begin{array}{r} 555 \\ - 98 \\ \hline \end{array}$$

408
$$\begin{array}{r} 408 \\ - 19 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 973 \\ - 84 \\ \hline \end{array}$$

578
$$\begin{array}{r} 578 \\ - 99 \\ \hline \end{array}$$

300
$$\begin{array}{r} 300 \\ - 17 \\ \hline \end{array}$$

542
$$\begin{array}{r} 542 \\ - 80 \\ \hline \end{array}$$

663
$$\begin{array}{r} 663 \\ - 74 \\ \hline \end{array}$$

Mid-Test Chapters 1–5

Write each number in expanded form.

- | | | |
|------------------|-----------|----------|
| a | b | c |
| 11. 732 | 32,132 | 4,790 |
| _____ | _____ | _____ |
| 12. 1,003 | 2,314,732 | 3,001 |
| _____ | _____ | _____ |

Round each number to the place named.

- | | | |
|-------------------------------|------------------------------|-----------------------|
| a | b | c |
| 13. 13,573
hundreds | 75,319
ten thousands | 1,932,710
millions |
| _____ | _____ | _____ |
| 14. 4,935
tens | 357,013
hundred thousands | 4,015
tens |
| _____ | _____ | _____ |

Compare each pair of numbers. Write $>$, $<$, or $=$.

- | | | |
|-------------------------------------|-----------------------|-------------------------------|
| a | b | c |
| 15. 13,702 <u> </u> 13,207 | 3,976 <u> </u> 9,362 | 932 <u> </u> 901 |
| 16. 26,314 <u> </u> 260,314 | 978 <u> </u> 978 | 3,721,460 <u> </u> 3,710,460 |

Add.

- | | | | | |
|--|---|--|--|--|
| a | b | c | d | e |
| 17. $\begin{array}{r} 703 \\ +172 \\ \hline \end{array}$ | $\begin{array}{r} 665 \\ +118 \\ \hline \end{array}$ | $\begin{array}{r} 713 \\ +375 \\ \hline \end{array}$ | $\begin{array}{r} 511 \\ +430 \\ \hline \end{array}$ | $\begin{array}{r} 300 \\ +479 \\ \hline \end{array}$ |
| 18. $\begin{array}{r} 2314 \\ +718 \\ \hline \end{array}$ | $\begin{array}{r} 1725 \\ +625 \\ \hline \end{array}$ | $\begin{array}{r} 3201 \\ +1405 \\ \hline \end{array}$ | $\begin{array}{r} 7358 \\ +1757 \\ \hline \end{array}$ | $\begin{array}{r} 8101 \\ +1709 \\ \hline \end{array}$ |

Mid-Test Chapters 1–5

Subtract.

a
19.
$$\begin{array}{r} 32146 \\ - 3132 \\ \hline \end{array}$$

b

$$\begin{array}{r} 67315 \\ - 14305 \\ \hline \end{array}$$

c

$$\begin{array}{r} 40195 \\ - 9186 \\ \hline \end{array}$$

d

$$\begin{array}{r} 75532 \\ - 21530 \\ \hline \end{array}$$

e

$$\begin{array}{r} 25789 \\ - 6642 \\ \hline \end{array}$$

20.
$$\begin{array}{r} 17315 \\ - 8904 \\ \hline \end{array}$$

$$\begin{array}{r} 98789 \\ - 73979 \\ \hline \end{array}$$

$$\begin{array}{r} 42804 \\ - 38709 \\ \hline \end{array}$$

$$\begin{array}{r} 87897 \\ - 58898 \\ \hline \end{array}$$

$$\begin{array}{r} 34932 \\ - 17983 \\ \hline \end{array}$$

21.
$$\begin{array}{r} 32564 \\ - 2198 \\ \hline \end{array}$$

$$\begin{array}{r} 4397 \\ - 2810 \\ \hline \end{array}$$

$$\begin{array}{r} 39702 \\ - 615 \\ \hline \end{array}$$

$$\begin{array}{r} 32084 \\ - 18093 \\ \hline \end{array}$$

$$\begin{array}{r} 9327 \\ - 452 \\ \hline \end{array}$$

Add.

22.
$$\begin{array}{r} 4132 \\ 714 \\ + 304 \\ \hline \end{array}$$

$$\begin{array}{r} 32015 \\ + 7932 \\ \hline \end{array}$$

$$\begin{array}{r} 8215 \\ 1730 \\ + 1045 \\ \hline \end{array}$$

$$\begin{array}{r} 25713 \\ + 13846 \\ \hline \end{array}$$

$$\begin{array}{r} 3014 \\ 1246 \\ + 710 \\ \hline \end{array}$$

23.
$$\begin{array}{r} 2315 \\ 1215 \\ + 8162 \\ \hline \end{array}$$

$$\begin{array}{r} 37805 \\ + 12125 \\ \hline \end{array}$$

$$\begin{array}{r} 7300 \\ 715 \\ + 120 \\ \hline \end{array}$$

$$\begin{array}{r} 243 \\ + 120 \\ \hline \end{array}$$

$$\begin{array}{r} 71042 \\ + 8925 \\ \hline \end{array}$$

24.
$$\begin{array}{r} 5614 \\ + 3293 \\ \hline \end{array}$$

$$\begin{array}{r} 26417 \\ + 2815 \\ \hline \end{array}$$

$$\begin{array}{r} 4932 \\ + 512 \\ \hline \end{array}$$

$$\begin{array}{r} 108765 \\ + 2046 \\ \hline \end{array}$$

$$\begin{array}{r} 45059 \\ + 38712 \\ \hline \end{array}$$

Mid-Test Chapters 1–5

Multiply.

- | | a | b | c | d | e |
|------------|---|---|---|---|---|
| 25. | $\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 21 \\ \times 4 \\ \hline \end{array}$ |
| 26. | $\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 14 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 44 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 20 \\ \times 4 \\ \hline \end{array}$ |
| 27. | $\begin{array}{r} 32 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 47 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 21 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 40 \\ \times 9 \\ \hline \end{array}$ | $\begin{array}{r} 17 \\ \times 9 \\ \hline \end{array}$ |
| 28. | $\begin{array}{r} 48 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 72 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 84 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 25 \\ 7 \\ \hline \end{array}$ | $\begin{array}{r} 49 \\ \times 9 \\ \hline \end{array}$ |
| 29. | $\begin{array}{r} 11 \\ \times 10 \\ \hline \end{array}$ | $\begin{array}{r} 22 \\ \times 11 \\ \hline \end{array}$ | $\begin{array}{r} 31 \\ \times 32 \\ \hline \end{array}$ | $\begin{array}{r} 43 \\ \times 20 \\ \hline \end{array}$ | $\begin{array}{r} 50 \\ \times 10 \\ \hline \end{array}$ |
| 30. | $\begin{array}{r} 75 \\ \times 25 \\ \hline \end{array}$ | $\begin{array}{r} 32 \\ \times 18 \\ \hline \end{array}$ | $\begin{array}{r} 132 \\ \times 41 \\ \hline \end{array}$ | $\begin{array}{r} 81 \\ \times 37 \\ \hline \end{array}$ | $\begin{array}{r} 103 \\ \times 17 \\ \hline \end{array}$ |
| 31. | $\begin{array}{r} 418 \\ \times 45 \\ \hline \end{array}$ | $\begin{array}{r} 500 \\ \times 32 \\ \hline \end{array}$ | $\begin{array}{r} 199 \\ \times 47 \\ \hline \end{array}$ | $\begin{array}{r} 578 \\ \times 23 \\ \hline \end{array}$ | $\begin{array}{r} 887 \\ \times 52 \\ \hline \end{array}$ |
| | | | | | $\begin{array}{r} 399 \\ \times 19 \\ \hline \end{array}$ |

Mid-Test Chapters 1–5

Divide.

a**b****c****d****e**

32. $9\overline{)81}$

7) 56

8) 48

8) 64

7) 42

33. 8) 24

5) 35

7) 28

6) 54

9) 90

34. 3) 300

2) 642

7) 721

4) 484

8) 864

35. 8) 724

7) 639

5) 525

6) 247

2) 876

36. 9) 458

7) 8,207

6) 684

3) 949

4) 713

37. 9) 908

2) 510

4) 6,481

8) 888

6) 445

Mid-Test Chapters 1–5**SHOW YOUR WORK**

Solve each problem.

- 38.** A total of 68 hikers went on a trip to Blue Hill Mountain. If 32 of the hikers were boys, how many hikers were girls?

_____ hikers were girls.

- 39.** On a trip to Washington, DC, there were 33 fifth-graders and 27 fourth-graders. How many students were on the trip?

There were _____ students on the trip.

- 40.** At the picnic grove, bird watchers saw 42 robins looking for worms. If there were 5 times as many starlings as robins, how many starlings were there?

There were _____ starlings.

- 41.** A group of friends is getting ready for a hike at night. Each of their flashlights take 4 batteries. If they have 72 batteries, how many flashlights can they take?

They can take _____ flashlights.

- 42.** There are 21 members of the soccer team on the bus. If each player carries on 4 pieces of equipment, how many pieces of equipment are on the bus?

There are _____ pieces of equipment on the bus.

- 43.** At the high school, all textbooks must be turned in at the end of the year. There are 150 science books, 125 math books, and 107 Spanish books. How many books will be turned in?

_____ books will be turned in.

38.**39.****40.****41.****42.****43.**



Check What You Know

Fractions

To find an equivalent fraction, multiply the fraction by the number in the circle.

a

$$1. \frac{3}{6} = \underline{\quad}$$

(4)

b

$$\frac{2}{3} = \underline{\quad}$$

(5)

c

$$\frac{1}{6} = \underline{\quad}$$

(6)

d

$$\frac{1}{3} = \underline{\quad}$$

(9)

Draw a picture to compare the fractions.

Then, write $>$, $<$, or $=$.

$$2. \frac{1}{5} \bigcirc \frac{2}{10}$$

Add.

$$3. \begin{array}{r} \frac{7}{10} \\ + \frac{3}{10} \\ \hline \end{array}$$

$$4. \begin{array}{r} \frac{3}{8} \\ + \frac{4}{8} \\ \hline \end{array}$$

Subtract.

$$5. \frac{4}{5} \quad 6. \frac{11}{12} - \frac{8}{12} =$$

$$\begin{array}{r} - \frac{2}{5} \\ \hline \end{array}$$

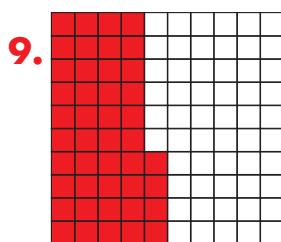
Decompose the fraction.

$$7. \frac{2}{4}$$

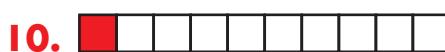
Write the decimal and fraction for each model.



_____ or _____



_____ or _____



_____ or _____



Check What You Know

Fractions

Add or subtract.

a

$$\begin{array}{r} \text{11.} \quad \frac{4}{10} \\ + \frac{8}{100} \\ \hline \end{array}$$

b

$$\begin{array}{r} 7 \frac{1}{6} \\ + 3 \frac{1}{6} \\ \hline \end{array}$$

c

$$\begin{array}{r} 5 \frac{3}{8} \\ + 8 \frac{3}{8} \\ \hline \end{array}$$

d

$$\begin{array}{r} 8 \frac{3}{5} \\ + 8 \frac{1}{5} \\ \hline \end{array}$$

$$\begin{array}{r} \text{12.} \quad 7 \frac{7}{9} \\ - 4 \frac{4}{9} \\ \hline \end{array}$$

$$\frac{2}{10}$$

$$\begin{array}{r} 9 \frac{3}{10} \\ + 2 \frac{9}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 4 \frac{5}{7} \\ - 1 \frac{2}{7} \\ \hline \end{array}$$

Multiply.

a

$$\text{13. } \frac{8}{9} \times 4 = \underline{\hspace{1cm}}$$

b

$$3 \times \frac{1}{8} = \underline{\hspace{1cm}}$$

c

$$\frac{4}{7} \times 2 = \underline{\hspace{1cm}}$$

d

$$\frac{5}{7} \times 8 = \underline{\hspace{1cm}}$$

$$\text{14. } 5 \times \frac{3}{10} = \underline{\hspace{1cm}}$$

$$2 \times \frac{7}{12} = \underline{\hspace{1cm}}$$

$$\frac{6}{11} \times 7 = \underline{\hspace{1cm}}$$

$$\frac{2}{9} \times 8 = \underline{\hspace{1cm}}$$

Lesson 6.1 Finding Equivalent Fractions

$\frac{3}{4}$ To find an equivalent fraction, multiply both the numerator and denominator by the same number.

$$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12} \quad \begin{matrix} \leftarrow \text{Multiply the numerator by 3.} \\ \leftarrow \text{Multiply the denominator by 3.} \end{matrix}$$

$$\frac{3}{4} = \frac{9}{12} \quad \frac{3}{4} \text{ and } \frac{9}{12} \text{ are equivalent fractions.}$$

To find an equivalent fraction, multiply the numerator and the denominator by the number in the circle.

a**b****c****d**

1. $\frac{3}{4} = \underline{\hspace{1cm}} \textcircled{3}$ $\frac{1}{4} = \underline{\hspace{1cm}} \textcircled{4}$ $\frac{2}{3} = \underline{\hspace{1cm}} \textcircled{5}$ $\frac{1}{2} = \underline{\hspace{1cm}} \textcircled{2}$

2. $\frac{1}{3} = \underline{\hspace{1cm}} \textcircled{6}$ $\frac{3}{12} = \underline{\hspace{1cm}} \textcircled{2}$ $\frac{1}{5} = \underline{\hspace{1cm}} \textcircled{3}$ $\frac{2}{10} = \underline{\hspace{1cm}} \textcircled{4}$

3. $\frac{5}{7} = \underline{\hspace{1cm}} \textcircled{2}$ $\frac{3}{6} = \underline{\hspace{1cm}} \textcircled{4}$ $\frac{2}{8} = \underline{\hspace{1cm}} \textcircled{4}$ $\frac{1}{6} = \underline{\hspace{1cm}} \textcircled{6}$

4. $\frac{1}{3} = \underline{\hspace{1cm}} \textcircled{9}$ $\frac{2}{3} = \underline{\hspace{1cm}} \textcircled{10}$ $\frac{2}{5} = \underline{\hspace{1cm}} \textcircled{5}$ $\frac{1}{8} = \underline{\hspace{1cm}} \textcircled{2}$

Use multiplication to find each equivalent fraction.

5. $\frac{1}{5} = \frac{3}{\underline{\hspace{1cm}}}$ $\frac{1}{10} = \frac{20}{\underline{\hspace{1cm}}}$ $\frac{3}{4} = \frac{9}{\underline{\hspace{1cm}}}$ $\frac{1}{2} = \frac{9}{\underline{\hspace{1cm}}}$

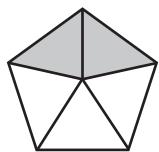
6. $\frac{1}{3} = \frac{12}{\underline{\hspace{1cm}}}$ $\frac{2}{4} = \frac{8}{\underline{\hspace{1cm}}}$ $\frac{1}{12} = \frac{2}{\underline{\hspace{1cm}}}$ $\frac{2}{6} = \frac{18}{\underline{\hspace{1cm}}}$

7. $\frac{2}{8} = \frac{10}{\underline{\hspace{1cm}}}$ $\frac{3}{5} = \frac{25}{\underline{\hspace{1cm}}}$ $\frac{3}{7} = \frac{9}{\underline{\hspace{1cm}}}$ $\frac{1}{2} = \frac{20}{\underline{\hspace{1cm}}}$

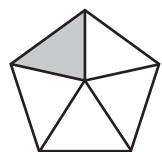
8. $\frac{4}{12} = \frac{24}{\underline{\hspace{1cm}}}$ $\frac{5}{6} = \frac{24}{\underline{\hspace{1cm}}}$ $\frac{1}{3} = \frac{9}{\underline{\hspace{1cm}}}$ $\frac{1}{2} = \frac{18}{\underline{\hspace{1cm}}}$

Lesson 6.2

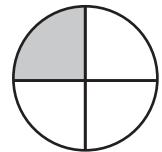
Comparing Fractions Using Models



$$\frac{2}{5} > \frac{1}{5}$$



$$\frac{1}{3} < \frac{1}{2}$$



$$\frac{1}{4} = \frac{2}{8}$$

$\frac{2}{5}$ is greater than $\frac{1}{5}$.

$\frac{1}{3}$ is less than $\frac{1}{2}$.

$\frac{1}{4}$ is equal to $\frac{2}{8}$.

Draw a picture for each fraction. Then, write $<$, $>$, or $=$ to compare the fractions.

a

1.

$$\frac{1}{4} \bigcirc \frac{3}{4}$$

b

$$\frac{1}{2} \bigcirc \frac{2}{4}$$

c

$$\frac{2}{3} \bigcirc \frac{1}{2}$$

2.

$$\frac{7}{10} \bigcirc \frac{3}{5}$$

$$\frac{3}{8} \bigcirc \frac{3}{4}$$

$$\frac{1}{3} \bigcirc \frac{5}{8}$$

3.

$$\frac{1}{5} \bigcirc \frac{2}{10}$$

$$\frac{3}{4} \bigcirc \frac{1}{2}$$

$$\frac{6}{10} \bigcirc \frac{2}{5}$$

Lesson 6.3 Comparing Fractions Using LCM

$$\frac{1}{7} \bigcirc \frac{2}{3}$$

To compare fractions without pictures, the denominators must be the same. When you have unlike denominators, find the **least common multiple (LCM)** and rename the fractions.

$$\frac{1 \times 3}{7 \times 3} = \frac{3}{21}$$

In the example, the denominators are 3 and 7, so find the LCM of 3 and 7.

$$\frac{2 \times 7}{3 \times 7} = \frac{14}{21}$$

Multiples of 3: 3, 6, 9, 12, 15, 18, 21, 24
Multiples of 7: 7, 14, 21, 28

$$\frac{3}{21} \bigcirc \frac{14}{21}$$

The least common multiple of 3 and 7 is 21. To change each fraction so it has the same denominator, multiply both the numerator and denominator by the same number. Look at the numerator to determine the larger fraction.

Use $<$, $>$, or $=$ to compare the fractions. Show your work.

a**1.**

$$\frac{4}{8} \bigcirc \frac{2}{10}$$

b

$$\frac{1}{5} \bigcirc \frac{2}{10}$$

2.

$$\frac{3}{8} \bigcirc \frac{10}{12}$$

$$\frac{3}{12} \bigcirc \frac{1}{3}$$

3.

$$\frac{2}{8} \bigcirc \frac{1}{4}$$

$$\frac{3}{6} \bigcirc \frac{4}{8}$$

Lesson 6.4

Adding Fractions with Like Denominators

$$\frac{2}{8} + \frac{5}{8}$$

↑ ↑

Like denominators
are the same number.

Add the numerators.

$$\frac{2}{8} + \frac{5}{8} = \frac{2+5}{8} = \frac{7}{8}$$

Write the sum over the
common denominator.

Add.

	a	b	c	d	
1.	$\frac{3}{12} + \frac{8}{12} = \underline{\quad}$	$\frac{2}{5} + \frac{1}{5} = \underline{\quad}$	$\frac{3}{6} + \frac{2}{6} = \underline{\quad}$	$\frac{1}{4} + \frac{2}{4} = \underline{\quad}$	
2.	$\frac{1}{10} + \frac{3}{10} = \underline{\quad}$	$\frac{3}{8} + \frac{2}{8} = \underline{\quad}$	$\frac{1}{3} + \frac{1}{3} = \underline{\quad}$	$\frac{2}{7} + \frac{2}{7} = \underline{\quad}$	
3.	$\frac{3}{5} + \frac{1}{5} = \underline{\quad}$	$\frac{4}{12} + \frac{5}{12} = \underline{\quad}$	$\frac{3}{10} + \frac{6}{10} = \underline{\quad}$	$\frac{2}{5} + \frac{2}{5} = \underline{\quad}$	
4.	$\frac{3}{8}$ $+8$ <hr/>	$\frac{3}{12}$ $+12$ <hr/>	$\frac{1}{6}$ $+6$ <hr/>	$\frac{2}{6}$ $+6$ <hr/>	$\frac{1}{8}$ $+8$ <hr/>
5.	$\frac{5}{12}$ $+12$ <hr/>	$\frac{3}{7}$ $+7$ <hr/>	$\frac{7}{10}$ $+10$ <hr/>	$\frac{3}{5}$ $+5$ <hr/>	$\frac{8}{12}$ $+12$ <hr/>
6.	$\frac{5}{11}$ $+11$ <hr/>	$\frac{1}{4}$ $+4$ <hr/>	$\frac{1}{2}$ $+2$ <hr/>	$\frac{5}{7}$ $+7$ <hr/>	$\frac{3}{9}$ $+9$ <hr/>

Lesson 6.5 Subtracting Fractions with Like Denominators

$\frac{7}{12} - \frac{5}{12}$

\uparrow \uparrow

Like denominators
are the same number.

Subtract the numerators.

$$\frac{7}{12} - \frac{5}{12} = \frac{7-5}{12} = \frac{2}{12}$$

Write the difference over the
common denominator.

Subtract.

a**b****c****d****e****1.**

$$\frac{11}{12}$$

$$\frac{7}{10}$$

$$\frac{3}{4}$$

$$\frac{6}{7}$$

$$\frac{4}{5}$$

$$\begin{array}{r} 3 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 5 \\ \hline \end{array}$$

2.

$$\frac{5}{10}$$

$$\frac{8}{12}$$

$$\frac{4}{5}$$

$$\frac{7}{10}$$

$$\frac{5}{8}$$

$$\begin{array}{r} 3 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ - 8 \\ \hline \end{array}$$

3.

$$\frac{9}{10}$$

$$\frac{7}{11}$$

$$\frac{8}{9}$$

$$\frac{4}{5}$$

$$\frac{8}{9}$$

$$\begin{array}{r} 3 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 11 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 9 \\ \hline \end{array}$$

a**b****c****d****4.**

$$\frac{5}{7} - \frac{3}{7} = \underline{\quad}$$

$$\frac{7}{12} - \frac{3}{12} = \underline{\quad}$$

$$\frac{8}{9} - \frac{8}{9} = \underline{\quad}$$

$$\frac{12}{12} - \frac{8}{12} = \underline{\quad}$$

5.

$$\frac{9}{12} - \frac{7}{12} = \underline{\quad}$$

$$\frac{4}{4} - \frac{3}{4} = \underline{\quad}$$

$$\frac{9}{10} - \frac{7}{10} = \underline{\quad}$$

$$\frac{3}{3} - \frac{1}{3} = \underline{\quad}$$

6.

$$\frac{5}{8} - \frac{1}{8} = \underline{\quad}$$

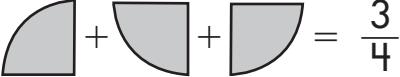
$$\frac{6}{7} - \frac{5}{7} = \underline{\quad}$$

$$\frac{11}{12} - \frac{8}{12} = \underline{\quad}$$

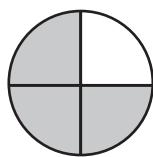
$$\frac{7}{10} - \frac{0}{10} = \underline{\quad}$$

Lesson 6.6

Decomposing Fractions

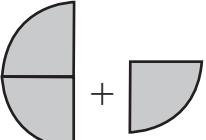


$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$$



$$\frac{3}{4}$$

OR



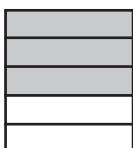
$$\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$$

Decompose each fraction in two ways. Write two equations to show your thinking.

1.

a

$$\frac{3}{5}$$



$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{3}{5}$$

OR



$$\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$$

b

$$\frac{5}{6}$$

2.

$$\frac{4}{12}$$

$$\frac{3}{8}$$

Lesson 6.7 Problem Solving**SHOW YOUR WORK**

Solve each problem. Show your work using fraction models.

- 1.** Three sisters had to wash the family car. Paula washed the front $\frac{1}{3}$ and Kelley washed the back $\frac{1}{3}$ of the car. Mandy didn't show up to wash her part of the car. How much of the car was washed?

_____ of the car was washed.

- 2.** Autumn has a bag of apples to feed her horses. If she feeds $\frac{2}{4}$ of the bag to her favorite horse and $\frac{1}{4}$ to the new foal, how much of the bag is left to feed the other horses?

_____ of a bag of apples is left for the other horses.

- 3.** The library received $\frac{3}{5}$ of its book order. The next day, it received $\frac{1}{5}$ of the order. How much of the book order does the library have?

The library has _____ of the book order.

1.**2.****3.****4.****5.**

Solve each problem. Show your work using equations.

- 4.** A group of friends went to the movies. In the lobby, $\frac{4}{8}$ of the group decided to see a comedy and $\frac{2}{8}$ decided to see a mystery. How much of the group wanted to see either a comedy or a mystery?

_____ of the group wanted to see a comedy or a mystery.

- 5.** In the school cafeteria, $\frac{2}{7}$ of the students were fourth-graders and $\frac{3}{7}$ of the students were fifth-graders. How many students were from the fourth and fifth grades?

_____ of the students were from the fourth and fifth grades.

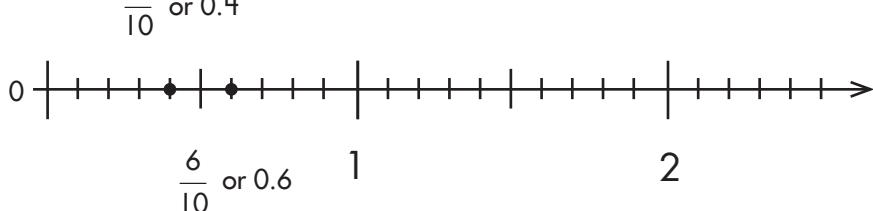
Lesson 6.8 Understanding Decimals to Tenths



$\frac{4}{10}$ of the box is shaded. $\frac{4}{10} = \text{four tenths} = 0.4$

$\frac{6}{10}$ of the box is unshaded. $\frac{6}{10} = \text{six tenths} = 0.6$

Locate on a number line.



Write the decimal and fraction for the shaded portion of each box.

a

_____ or _____

b

_____ or _____

c

_____ or _____

Write the decimal equivalent to the given fraction.

a

2. $\frac{2}{10} = \underline{\quad}$

b

$\frac{6}{10} = \underline{\quad}$

c

$\frac{9}{10} = \underline{\quad}$

d

$\frac{4}{10} = \underline{\quad}$

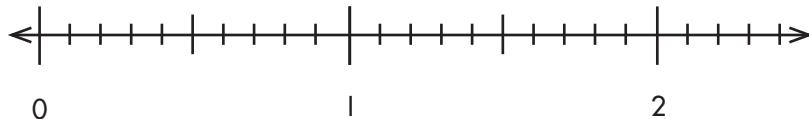
3. $\frac{3}{10} = \underline{\quad}$

$\frac{1}{10} = \underline{\quad}$

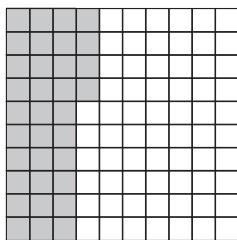
$\frac{8}{10} = \underline{\quad}$

$\frac{5}{10} = \underline{\quad}$

Locate $\frac{2}{10}$ and 0.8 on the number line.

4.

Lesson 6.9 Understanding Decimals to Hundredths



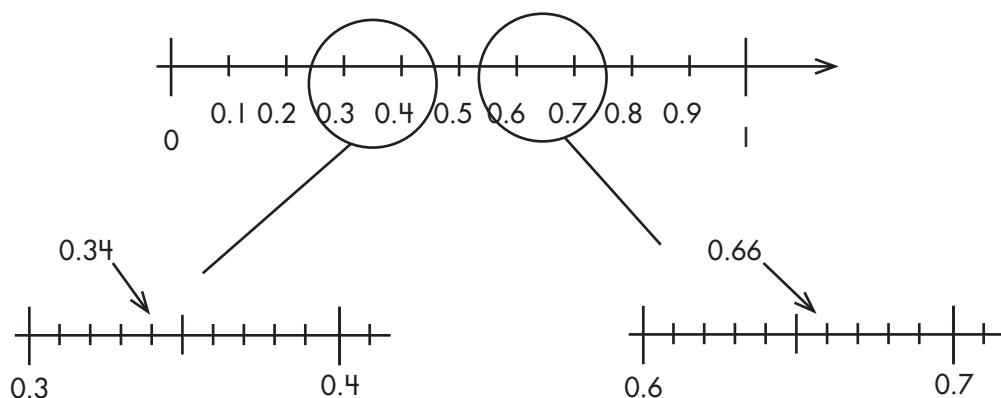
$\frac{34}{100}$ of the box is shaded.

$\frac{34}{100} = \text{four tenths} = 0.34$

$\frac{66}{100}$ of the box is unshaded.

$\frac{66}{100} = \text{six tenths} = 0.66$

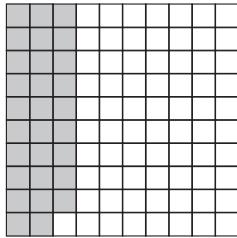
Locate on a number line.



Write the decimal and fraction for each box.

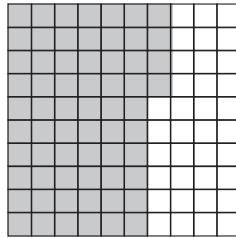
1.

a



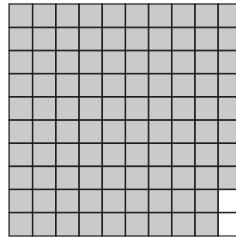
_____ or _____

b



_____ or _____

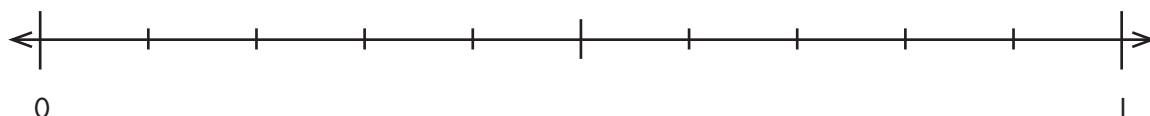
c



_____ or _____

Locate $\frac{47}{100}$ and 0.83 on the number line.

2.



Lesson 6.10

Adding Fractions with Unlike Denominators

$$\frac{1}{10} = \frac{10}{100}$$

because

$$\frac{1}{10} \times 10 = \frac{10}{100}$$

Therefore...

$$\begin{array}{r}
 \frac{1}{10} = \frac{10}{100} \\
 + \frac{6}{100} = \frac{6}{100} \\
 \hline
 \frac{16}{100}
 \end{array}$$

Find the equivalent fraction. Then, add.

	a	b	c	d
1.	$\frac{1}{10}$	$\frac{2}{10}$	$\frac{4}{10}$	$\frac{7}{10}$
	$+ \frac{9}{100}$	$+ \frac{2}{100}$	$+ \frac{5}{100}$	$+ \frac{7}{100}$
	<hr/>	<hr/>	<hr/>	<hr/>
2.	$\frac{5}{10}$	$\frac{1}{10}$	$\frac{4}{10}$	$\frac{6}{10}$
	$+ \frac{50}{100}$	$+ \frac{1}{100}$	$+ \frac{8}{100}$	$+ \frac{5}{100}$
	<hr/>	<hr/>	<hr/>	<hr/>
3.	$\frac{5}{10}$	$\frac{3}{10}$	$\frac{8}{10}$	$\frac{3}{10}$
	$+ \frac{2}{100}$	$+ \frac{6}{100}$	$+ \frac{3}{100}$	$+ \frac{3}{100}$
	<hr/>	<hr/>	<hr/>	<hr/>

Lesson 6.11

Adding Mixed Numerals with Like Denominators

$$3\frac{4}{9}$$

Add the fractions.

$$\frac{4}{9} + \frac{2}{9} = \frac{6}{9}$$

$$+ 2\frac{2}{9}$$

Add the whole numbers.

$$3 + 2 = 5$$

$$\underline{5\frac{6}{9}} = 5\frac{2}{3}$$

Reduce to simplest form.

$$\frac{6}{9} \div \frac{3}{3} = \frac{2}{3}$$

Add. Write answers in simplest form.

1. **a** $3\frac{4}{7}$
 $+ 5\frac{3}{7}$

b $6\frac{4}{9}$
 $+ 8\frac{5}{9}$

c $7\frac{1}{6}$
 $+ 3\frac{1}{6}$

d $2\frac{2}{5}$
 $+ 4\frac{4}{5}$

e $3\frac{2}{11}$
 $+ 8\frac{8}{11}$

2. $9\frac{3}{10}$
 $+ 2\frac{9}{10}$

$5\frac{1}{8}$
 $+ 4\frac{3}{8}$

$1\frac{6}{7}$
 $+ 3\frac{2}{7}$

$8\frac{3}{4}$
 $+ 6\frac{3}{4}$

$2\frac{2}{9}$
 $+ 7\frac{2}{9}$

3. $6\frac{4}{11}$
 $+ 1\frac{3}{11}$

$3\frac{1}{10}$
 $+ 4\frac{9}{10}$

$6\frac{5}{6}$
 $+ 5\frac{5}{6}$

$5\frac{3}{8}$
 $+ 8\frac{3}{8}$

$1\frac{5}{7}$
 $+ 6\frac{4}{7}$

4. $2\frac{11}{12}$
 $+ 7\frac{11}{12}$

$8\frac{3}{5}$
 $+ 8\frac{1}{5}$

$9\frac{5}{12}$
 $+ 4\frac{7}{12}$

$2\frac{8}{9}$
 $+ 5\frac{7}{9}$

$7\frac{9}{10}$
 $+ 6\frac{9}{10}$

Lesson 6.12

Subtracting Mixed Numerals with Like Denominators

$$\begin{array}{r}
 3\frac{2}{8} = 2\frac{10}{8} & \frac{2}{8} \text{ is less than } \frac{3}{8}. \text{ Rename } 3\frac{3}{8}. \\
 - 1\frac{3}{8} = - 1\frac{3}{8} & \text{Subtract the fractions.} \\
 \hline
 1\frac{7}{8} & \text{Subtract the whole numbers.}
 \end{array}$$

$3 = 2 + 1 + \frac{2}{8}$
 $= 2 + \frac{8}{8} + \frac{2}{8} = 2\frac{10}{8}$

Subtract. Write answers in simplest form.

a	b	c	d	e
1. $3\frac{3}{4}$ $- 1\frac{1}{4}$ \hline	b $6\frac{2}{7}$ $- 2\frac{1}{7}$ \hline	c $9\frac{7}{8}$ $- 3\frac{5}{8}$ \hline	d $8\frac{5}{6}$ $- 4\frac{1}{6}$ \hline	e $6\frac{5}{8}$ $- 3\frac{3}{8}$ \hline

2. $7\frac{7}{9}$ $- 4\frac{4}{9}$ \hline	$5\frac{7}{10}$ $- 3\frac{1}{10}$ \hline	$6\frac{3}{5}$ $- 4\frac{2}{5}$ \hline	$9\frac{3}{7}$ $- 7\frac{3}{7}$ \hline	$8\frac{7}{9}$ $- 7\frac{2}{9}$ \hline
---	--	--	--	--

3. $6\frac{4}{11}$ $- 1\frac{3}{11}$ \hline	$4\frac{9}{10}$ $- 3\frac{1}{10}$ \hline	$6\frac{5}{6}$ $- 5\frac{5}{6}$ \hline	$8\frac{3}{8}$ $- 5\frac{3}{8}$ \hline	$7\frac{5}{7}$ $- 6\frac{4}{7}$ \hline
---	--	--	--	--

4. $6\frac{3}{5}$ $- 5\frac{1}{5}$ \hline	$4\frac{5}{7}$ $- 1\frac{2}{7}$ \hline	$7\frac{9}{10}$ $- 2\frac{3}{10}$ \hline	$8\frac{11}{12}$ $- 1\frac{7}{12}$ \hline	$6\frac{8}{9}$ $- 3\frac{7}{9}$ \hline
---	--	--	---	--

Lesson 6.13 Problem Solving**SHOW YOUR WORK**

Solve each problem. Write answers in simplest form.

- 1.** It takes Carlos $2\frac{1}{6}$ days to make a model airplane and $1\frac{5}{6}$ days to make a model car. How many days will it take Carlos to make both?
- It will take _____ days for Carlos to make both.
- 2.** Mr. Chen is going to the post office with two packages. One package weighs $6\frac{3}{8}$ kilograms and the other weighs $2\frac{1}{8}$ kilograms. How many kilograms are the two packages combined?
- The packages weigh _____ kilograms combined.
- 3.** The beach is $6\frac{9}{10}$ miles from the Cabrera family. They have driven $2\frac{3}{10}$ miles toward the beach. How many more miles must the Cabrera family drive?
- The Cabrera family must drive _____ more miles.
- 4.** Jaleela wants to paint her bedroom blue and gold. She has $4\frac{3}{8}$ gallons of blue paint and $2\frac{1}{8}$ gallons of gold paint. How much more blue paint does Jaleela have than gold paint?
- Jaleela has _____ more gallons of blue paint than gold paint.
- 5.** Travis is $5\frac{7}{12}$ feet tall. Nathan is $5\frac{11}{12}$ feet tall. How much taller is Nathan than Travis?
- Nathan is _____ foot taller than Travis.

1.**2.****3.****4.****5.**

Lesson 6.14

Fractions as Multiples

$$\frac{4}{5} = 4 \times \left(\frac{1}{5} \right)$$

$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{4}{5}$$

Write the addition equation and multiplication equation for each fraction.

1.

$$\frac{6}{10} = \underline{\quad} \times \left(\underline{\quad} \right)$$

OR**2.**

$$\frac{2}{8} = \underline{\quad} \times \left(\underline{\quad} \right)$$

OR**3.**

$$\frac{2}{4} = \underline{\quad} \times \left(\underline{\quad} \right)$$

OR**4.**

$$\frac{7}{3} = \underline{\quad} \times \left(\underline{\quad} \right)$$

OR**5.**

$$\frac{10}{6} = \underline{\quad} \times \left(\underline{\quad} \right)$$

OR**6.**

$$\frac{5}{12} = \underline{\quad} \times \left(\underline{\quad} \right)$$

OR

Lesson 6.15 Multiplying Fractions and Whole Numbers

$$\begin{aligned}\frac{2}{3} \times 6 &= \frac{2}{3} \times \frac{6}{1} \\&= \frac{2 \times 6}{3 \times 1} \\&= \frac{12}{3} \\&= 4\end{aligned}$$

Rewrite the whole number as a fraction.

$$\begin{aligned}7 \times \frac{1}{2} &= \frac{7}{1} \times \frac{1}{2} \\&= \frac{7 \times 1}{1 \times 2} \\&= \frac{7}{2} \\&= 3\frac{1}{2}\end{aligned}$$

Multiply the numerators.
Multiply the denominators.

Reduce to simplest form.

Multiply. Write answers in simplest form.

a **b** **c** **d**

1. $3 \times \frac{1}{8} = \underline{\quad}$ $5 \times \frac{2}{3} = \underline{\quad}$ $\frac{2}{9} \times 8 = \underline{\quad}$ $\frac{4}{7} \times 2 = \underline{\quad}$

2. $6 \times \frac{3}{5} = \underline{\quad}$ $2 \times \frac{5}{9} = \underline{\quad}$ $\frac{2}{7} \times 3 = \underline{\quad}$ $7 \times \frac{3}{4} = \underline{\quad}$

3. $\frac{8}{9} \times 4 = \underline{\quad}$ $\frac{1}{2} \times 8 = \underline{\quad}$ $\frac{4}{5} \times 6 = \underline{\quad}$ $9 \times \frac{1}{3} = \underline{\quad}$

4. $5 \times \frac{3}{10} = \underline{\quad}$ $\frac{2}{3} \times 3 = \underline{\quad}$ $9 \times \frac{7}{8} = \underline{\quad}$ $\frac{6}{11} \times 7 = \underline{\quad}$

5. $\frac{4}{9} \times 7 = \underline{\quad}$ $9 \times \frac{3}{10} = \underline{\quad}$ $2 \times \frac{7}{12} = \underline{\quad}$ $\frac{5}{7} \times 8 = \underline{\quad}$

Lesson 6.15 Multiplying Fractions and Whole Numbers

Multiply. Write answers in simplest form.

a

1. $5 \times \frac{2}{7} = \underline{\quad}$

b

$3 \times \frac{4}{5} = \underline{\quad}$

c

$7 \times \frac{6}{8} = \underline{\quad}$

d

$2 \times \frac{3}{4} = \underline{\quad}$

2. $4 \times \frac{2}{7} = \underline{\quad}$

$6 \times \frac{1}{8} = \underline{\quad}$

$8 \times \frac{1}{3} = \underline{\quad}$

$2 \times \frac{3}{10} = \underline{\quad}$

3. $\frac{8}{9} \times 3 = \underline{\quad}$

$\frac{2}{5} \times 5 = \underline{\quad}$

$4 \times \frac{3}{8} = \underline{\quad}$

$6 \times \frac{1}{8} = \underline{\quad}$

4. $3 \times \frac{5}{8} = \underline{\quad}$

$4 \times \frac{1}{6} = \underline{\quad}$

$\frac{1}{3} \times 9 = \underline{\quad}$

$\frac{5}{9} \times 7 = \underline{\quad}$

5. $\frac{7}{12} \times 2 = \underline{\quad}$

$3 \times \frac{6}{7} = \underline{\quad}$

$\frac{1}{2} \times 5 = \underline{\quad}$

$6 \times \frac{2}{3} = \underline{\quad}$

6. $\frac{1}{5} \times 4 = \underline{\quad}$

$5 \times \frac{2}{3} = \underline{\quad}$

$\frac{2}{7} \times 6 = \underline{\quad}$

$3 \times \frac{2}{5} = \underline{\quad}$

Lesson 6.16 Problem Solving**SHOW YOUR WORK**

Multiply. Write answers in simplest form.

- 1.** One serving of pancakes calls for $\frac{1}{3}$ cup of milk. How many cups of milk are needed for 4 servings of pancakes?

_____ cups of milk are needed for four servings of pancakes.

- 2.** If Carlos works $\frac{5}{12}$ of a day every day, how much will Carlos have worked after 5 days?

Carlos will have worked _____ days.

- 3.** Tony drinks $\frac{2}{7}$ of a gallon of orange juice a day. How many gallons of orange juice would he drink in 4 days?

He would drink _____ gallons of orange juice.

- 4.** Miranda has 3 kites. Each kite needs $\frac{2}{3}$ yard of string. How much string does Miranda need for all 3 kites?

Miranda needs _____ yards of string.

- 5.** A single serving of gelatin dessert requires $\frac{3}{8}$ cup sugar. How much sugar is needed for 6 servings?

_____ cups are needed.

- 6.** Every day Sheila runs $\frac{4}{7}$ mile. If she runs for 9 days, how far will Sheila have run?

She will have run _____ miles.

- 7.** Jason put down tile floor in his basement. He placed 10 tiles across the floor. Each tile is $\frac{5}{8}$ feet wide. How wide is the area he covered with tiles?

The area covered with tiles is _____ feet wide.

1.**2.****3.****4.****5.****6.****7.**

NAME _____



Check What You Learned

Fractions

Find the equivalent fraction.

1.**a****b****c****d**

$$\frac{3}{5} = \frac{\underline{\hspace{2cm}}}{25}$$

$$\frac{2}{6} = \frac{\underline{\hspace{2cm}}}{18}$$

$$\frac{1}{2} = \frac{9}{\underline{\hspace{2cm}}}$$

$$\frac{2}{8} = \frac{10}{\underline{\hspace{2cm}}}$$

Compare the fractions using $<$, $>$, or $=$.

2.**a****b****c**

$$\frac{1}{5} \bigcirc \frac{2}{10}$$

$$\frac{3}{4} \bigcirc \frac{1}{2}$$

$$\frac{7}{10} \bigcirc \frac{3}{5}$$

Add or subtract.

3.**a****b****c****d**

$$\begin{array}{r} \frac{1}{4} \\ + \frac{1}{4} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{8}{9} \\ - \frac{1}{9} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{5}{12} \\ + \frac{3}{12} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{5}{10} \\ - \frac{3}{10} \\ \hline \end{array}$$

Decompose the fraction.

4.

$$\frac{3}{5}$$

Write the decimal equivalent to the given fraction.

$$\textbf{5. } \frac{8}{100} = \underline{\hspace{2cm}}$$

$$\textbf{6. } \frac{4}{10} = \underline{\hspace{2cm}}$$



Check What You Learned

Fractions

Add or subtract.

7.**a**

$$\begin{array}{r} \frac{6}{10} \\ + \frac{5}{100} \\ \hline \end{array}$$

b

$$\begin{array}{r} 6 \frac{2}{7} \\ - 2 \frac{1}{7} \\ \hline \end{array}$$

c

$$\begin{array}{r} 6 \frac{4}{11} \\ + 1 \frac{3}{11} \\ \hline \end{array}$$

d

$$\begin{array}{r} 6 \frac{8}{9} \\ - 3 \frac{7}{9} \\ \hline \end{array}$$

8.

$$\begin{array}{r} \frac{3}{10} \\ + \frac{3}{100} \\ \hline \end{array}$$

$$\begin{array}{r} 7 \frac{7}{9} \\ - 4 \frac{4}{9} \\ \hline \end{array}$$

$$\begin{array}{r} 6 \frac{3}{5} \\ - 5 \frac{1}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 3 \frac{4}{7} \\ + 5 \frac{3}{7} \\ \hline \end{array}$$

Multiply. Write answers in simplest form.

9.**a****b****c****d**

$$8 \times \frac{8}{9} = \underline{\quad}$$

$$\frac{5}{12} \times 6 = \underline{\quad}$$

$$\frac{3}{8} \times 3 = \underline{\quad}$$

$$7 \times \frac{4}{11} = \underline{\quad}$$

10.

$$\frac{1}{4} \times 3 = \underline{\quad}$$

$$\frac{1}{2} \times 9 = \underline{\quad}$$

$$2 \times \frac{3}{5} = \underline{\quad}$$

$$4 \times \frac{7}{10} = \underline{\quad}$$



Check What You Know

Measurement

Complete the following.

a

1. 36 inches = _____ yard

b

8 quarts = _____ gallons

2. 1 cup = _____ ounces

1 mile = _____ yards

3. 2 feet = _____ inches

10 cups = _____ pints

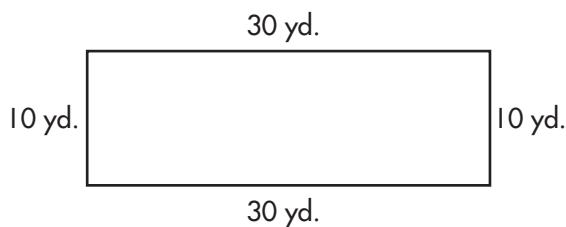
4. 3 feet = _____ yard

8 pints = _____ quarts

5. 10 pints = _____ cups

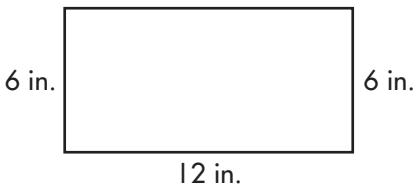
8 cups = _____ quarts

Find the area and perimeter of each shape.

6.

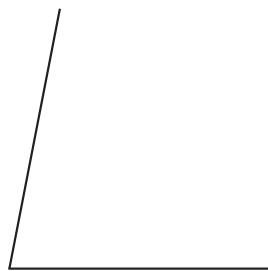
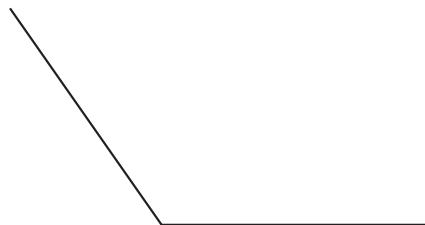
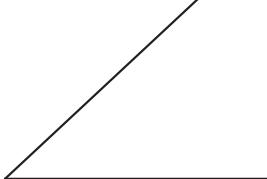
$$\begin{aligned} A &= \text{_____ square yards} \\ P &= \text{_____ yards} \end{aligned}$$

12 in.



$$\begin{aligned} A &= \text{_____ square inches} \\ P &= \text{_____ inches} \end{aligned}$$

Measure the angle.



7. _____ °

8. _____ °

9. _____ °



Check What You Know

Measurement

SHOW YOUR WORK

Solve each problem.

- 10.** Paul is using a 4-quart container to fill a wash tub. If he needs 12 gallons of water to fill the tub, how many times does he need to fill the 4-quart container?

He needs to fill the container _____ times.

10.

- 11.** A worker at the zoo measured the length of an iguana. The iguana measured 72 inches long. How many feet did the iguana measure?

The iguana measured _____ feet.

11.

- 12.** The feed store has a half ton of wood shavings to ship to the horse farm. How many pounds of shavings does the feed store have?

The feed store has _____ pounds of wood shavings.

12.

- 13.** The town of Yarmouth is planning a skateboard park and needs to know the perimeter of the park. The property measures 7 yards by 3 yards by 10 yards by 5 yards. What is the perimeter?

The park's perimeter is _____ yards.

13.

- 14.** The Garcia brothers are painting a wall in their living room. The wall measures 8 feet by 10 feet. What is the area of the wall?

The area of the wall is _____ square feet.

14.



Check What You Know

Measurement

Complete the following.

a

15. $5 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

b

15. $60,000 \text{ mL} = \underline{\hspace{2cm}} \text{ L}$

16. $6 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

16. $32 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

17. $72 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

17. $19 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

18. $1 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

18. $100 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

19. $25 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

19. $65 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

20. $17 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

20. $5,200 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

21. $7,000 \text{ mg} = \underline{\hspace{2cm}} \text{ g}$

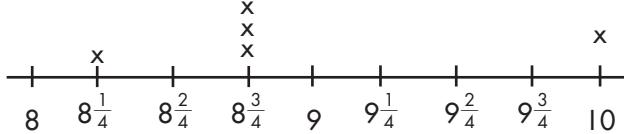
21. $25 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

22. $200 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$

22. $9,000 \text{ mL} = \underline{\hspace{2cm}} \text{ L}$

Use the line plot to answer the questions.

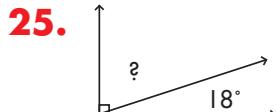
Miles Run

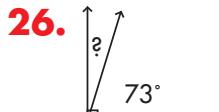


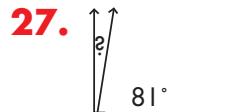
- 23.** What is the difference between the longest distance run and the shortest distance run?

- 24.** If you add all the distances together, what would be the total distance run?

Find the missing angle.









Check What You Know

Measurement

SHOW YOUR WORK

Solve each problem.

- 28.** A hiking trail is 35 kilometers long. Sarah hiked 15 kilometers so far. How many more meters does Sarah have to hike?

Sarah has to hike _____ more meters.

28.

- 29.** The ham in the store weighs 1 kilogram, the turkey weighs 2 kilograms, and the chicken weighs 1 kilogram. How many grams do all three items in the grocery store weigh?

All three items weigh _____ grams.

29.

- 30.** Shawna needs liters of ginger ale and cola for a party, but it only comes in milliliters. If she orders 30,000 milliliters of ginger ale and 20,000 milliliters of cola, how many liters will she have?

She will have _____ liters.

30.

- 31.** The science experiment requires the students to measure 52,000 milligrams of chemicals. There are only 13,000 milligrams of chemicals in the science lab. How many more milligrams of chemicals do the students need?

The students need _____ more milligrams of chemicals.

31.

Lesson 7.1 Units of Length (inches, feet, yards, and miles)

12 inches = 1 foot (ft.)
3 feet = 1 yard (yd.)
36 inches = 1 yard (yd.)
1,760 yards = 1 mile (mi.)
5,280 feet = 1 mile (mi.)

$$6 \text{ feet} = \underline{\hspace{2cm}} \text{ inches}$$

$$(6 \text{ feet} \times 12 \text{ inches})$$

$$6 \times 12 = 72$$

$$6 \text{ feet} = \underline{\hspace{2cm}} 72 \text{ inches}$$

$$72 \text{ feet} = \underline{\hspace{2cm}} \text{ yards}$$

$$\begin{array}{r} 24 \\ 3) 72 \\ \underline{-6} \\ 12 \end{array} \quad 72 \text{ feet} = \underline{\hspace{2cm}} 24 \text{ yards}$$

Complete the following.

a

$$1. 5 \text{ yd.} = \underline{\hspace{2cm}} \text{ ft.}$$

b

$$8 \text{ ft.} = \underline{\hspace{2cm}} \text{ in.}$$

c

$$72 \text{ yd.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$2. 48 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$3 \text{ mi.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$24 \text{ yd.} = \underline{\hspace{2cm}} \text{ in.}$$

$$3. 3,000 \text{ ft.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$24 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$2 \text{ mi.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$4. 12 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$26 \text{ yd.} = \underline{\hspace{2cm}} \text{ in.}$$

$$12 \text{ ft.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$5. 360 \text{ in.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$10 \text{ ft.} = \underline{\hspace{2cm}} \text{ in.}$$

$$720 \text{ yd.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$6. 7 \text{ mi.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$2,400 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$324 \text{ ft.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$7. 10 \text{ mi.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$600 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$6 \text{ ft.} = \underline{\hspace{2cm}} \text{ in.}$$

$$8. 132 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$50 \text{ yd.} = \underline{\hspace{2cm}} \text{ in.}$$

$$36 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$9. 72 \text{ ft.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$36 \text{ in.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$3,636 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

$$10. 8 \text{ mi.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$48 \text{ ft.} = \underline{\hspace{2cm}} \text{ yd.}$$

$$120 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

Lesson 7.2 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Brandy has a curvy slide that is 5 feet long. Pedro has a curvy slide that is 8 feet long. How many inches longer is Pedro's slide than Brandy's slide?

Pedro's slide is _____ inches longer.

- 2.** Kristi and Brian were competing in the long jump. Kristi jumped 9 feet. Brian jumped 6 feet. How many total yards did Kristi and Brian jump together?

They jumped a total of _____ yards.

- 3.** The new speedboat measures 25 yards long. The old speedboat measured 18 yards long. How many feet longer is the new speedboat than the old speedboat?

The new speedboat is _____ feet longer.

- 4.** The brown snake measures 12 feet long. The green snake measures 15 feet long. How many yards long are both the brown snake and the green snake?

Both snakes together are _____ yards long.

- 5.** The hot air balloon traveled 15 miles on Monday and 18 miles on Tuesday. It still has 25 more miles to go to get to its destination. At the end of the trip, how many yards will the hot air balloon have traveled?

It will have traveled _____ yards.

- 6.** David's flying disc soared for 468 feet. David picked it up and threw it again, and it soared for 375 feet. How many total yards did David's flying disc soar?

David's disc soared for _____ yards.

1.**2.****3.****4.****5.****6.**

Lesson 7.3

Liquid Volume (cups, pints, quarts, and gallons)

Conversion Table

1 cup (c.) = 8 ounces (oz.)		
1 pint (pt.) = 2 cups (c.)	7 qt. = _____ pt.	16 qt. = _____ gal.
1 quart (qt.) = 2 pints (pt.)	Know: 1 qt. = 2 pt.	Know: 4 qt. = 1 gal.
1 quart (qt.) = 4 cups (c.)	$7 \times 2 = 14$	$16 \div 4 = 4$
1 gallon (gal.) = 4 quarts (qt.)	7 qt. = 14 pt.	16 qt. = 4 gal.
1 gallon (gal.) = 8 pints (pt.)		
1 gallon (gal.) = 16 cups (c.)		

When converting from a larger unit to a smaller unit, multiply.

When converting from a smaller unit to a larger unit, divide.

Complete the following.

a

c

b

- | | | |
|------------------------|---------------------|---------------------|
| 1. 2 gal. = _____ qt. | 4 pt. = _____ qt. | 12 c. = _____ pt. |
| 2. 24 qt. = _____ gal. | 16 oz. = _____ c. | 10 qt. = _____ pt. |
| 3. 14 pt. = _____ qt. | 28 qt. = _____ gal. | 14 pt. = _____ c. |
| 4. 48 c. = _____ pt. | 32 oz. = _____ c. | 14 c. = _____ pt. |
| 5. 10 gal. = _____ qt. | 30 pt. = _____ c. | 18 c. = _____ pt. |
| 6. 12 gal. = _____ qt. | 22 pt. = _____ qt. | 64 oz. = _____ c. |
| 7. 30 pt. = _____ qt. | 20 c. = _____ oz. | 40 qt. = _____ gal. |
| 8. 18 c. = _____ pt. | 44 pt. = _____ c. | 80 qt. = _____ pt. |
| 9. 150 qt. = _____ pt. | 200 c. = _____ pt. | 40 c. = _____ oz. |
| 10. 88 oz. = _____ c. | 16 qt. = _____ gal. | 50 qt. = _____ pt. |

Lesson 7.4 Weight (ounces, pounds, and tons)

Conversion Table

When converting from a larger unit to a smaller unit, multiply.

one-half pound (lb.) = 8 ounces (oz.)

1 pound (lb.) = 16 ounces (oz.)

one-half ton (T.) = 1,000 pounds (lb.)

1 ton (T.) = 2,000 pounds (lb.)

5 lb. = _____ oz.

Know:

1 lb. = 16 oz.

$$5 \times 16 = 80$$

5 lb. = 80 oz.

When converting from a smaller unit to a larger unit, divide.

6,000 lb. = _____ T.

Know:

2,000 lb. = 1 T.

$$6,000 \div 2,000 = 3$$

6,000 lb. = 3 T.

Complete the following.

a

1. 32 oz. = _____ lb.

b

6,000 lb. = _____ T.

c

4 T. = _____ lb.

2. 40 lb. = _____ oz.

64 oz. = _____ lb.

24,000 lb. = _____ T.

3. 1,000 lb. = _____ T.

8 oz. = _____ lb.

18,000 lb. = _____ T.

4. 8 lb. = _____ oz.

12 lb. = _____ oz.

10,000 lb. = _____ T.

Tons	Pounds	Ounces
5.	_____	160,000
6.	4,000	64,000
7.	3	_____
8.	4	_____
9.	_____	32,000
10.	6	_____
11.	10	320,000

Lesson 7.5 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** The cooks made 120 quarts of lemonade for the first concert. They made 150 quarts of lemonade for the second concert and 130 quarts for the third concert. How many gallons of lemonade did the cooks make for all three concerts?

They made _____ gallons of lemonade in all.

- 2.** A large ship was being loaded with 20 tons of grain and 5 tons of flour. How many more pounds of grain were there on the ship?

There were _____ more pounds of grain.

- 3.** The largest wheel of cheese in City A weighs 985 pounds. The largest wheel of cheese in City B weighs 894 pounds. How many total ounces do both wheels of cheese weigh?

They weigh a total of _____ ounces.

- 4.** Tito stored 15 gallons of water in his basement. Jack stored 29 gallons of water in his basement. During the hurricane, they used 32 gallons of water. How many quarts of water did the boys have left after the hurricane?

Tito and Jack had _____ quarts of water left.

- 5.** The large airplane carried 5 tons of luggage this week. The medium airplane carried 3 tons of luggage this week. The small airplane carried 1,544 pounds of luggage this week. How many total pounds of luggage did all 3 planes carry this week?

All three planes carried a total of _____ pounds of luggage this week.

1.

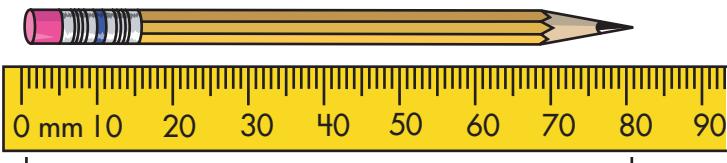
2.

3.

4.

5.

Lesson 7.6 Measuring in Millimeters

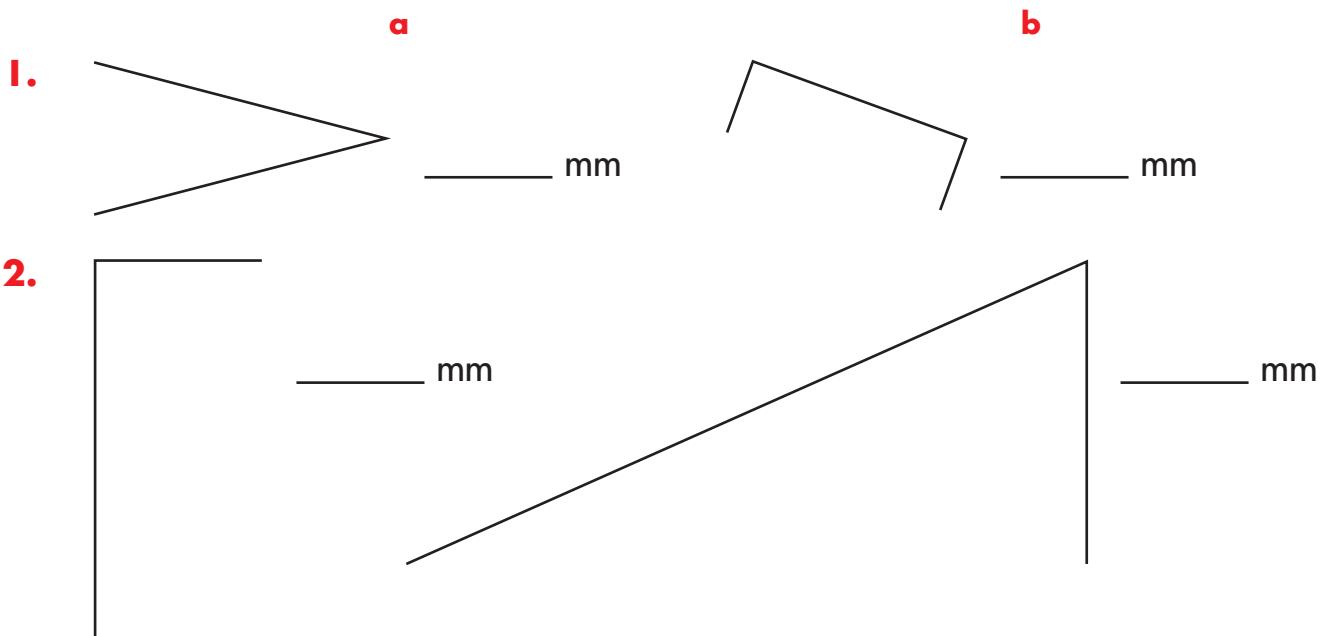


80 millimeters or 8 centimeters

The pencil is 8 centimeters or 80 millimeters long.

$$\begin{aligned} 1 \text{ centimeter (cm)} &= 10 \text{ millimeters (mm)} \\ 1 \text{ cm} &= 10 \text{ mm} \end{aligned}$$

Use a ruler and pencil to finish the shape. Find the length of the missing side in millimeters.



Complete the following.

3. $7 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

4. $2 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

5. $5 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

6. $60 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$

7. $90 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$

8. $11 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

9. $100 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$

10. $25 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

Lesson 7.7 Meters and Kilometers

$$100 \text{ centimeters (cm)} = 1 \text{ meter (m)}$$

$$100 \text{ cm} = 1 \text{ m}$$

$$1,000 \text{ meters (m)} = 1 \text{ kilometer (km)}$$

$$1,000 \text{ m} = 1 \text{ km}$$

Find the length of each of the following objects around your home to the nearest meter.

Object	Length (m)
1. width of TV screen	_____ m
2. height of stove	_____ m
3. height of computer	_____ m
4. width of your bed	_____ m
5. height of TV	_____ m
6. your height	_____ m
7. width of a window	_____ m

Complete the following.

a

$$8. 600 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$$

b

$$9,000 \text{ m} = \underline{\hspace{2cm}} \text{ km}$$

$$9. 7 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$$

$$10,000 \text{ m} = \underline{\hspace{2cm}} \text{ km}$$

$$10. 7 \text{ km} = \underline{\hspace{2cm}} \text{ m}$$

$$23 \text{ km} = \underline{\hspace{2cm}} \text{ m}$$

$$11. 8 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$$

$$32 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$$

$$12. 2 \text{ km} = \underline{\hspace{2cm}} \text{ m}$$

$$14 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$$

Lesson 7.8

Units of Length (millimeters, centimeters, meters, and kilometers)

$7 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$	$3 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$	$32 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$	$15 \text{ km} = \underline{\hspace{2cm}} \text{ m}$
$\begin{array}{r} 1 \text{ cm} = 10 \text{ mm} \\ \downarrow \qquad \downarrow \\ 1 \qquad 10 \\ \times 7 \qquad \times 7 \\ \hline 7 \qquad 70 \\ \downarrow \qquad \downarrow \\ 7 \text{ cm} = 70 \text{ mm} \end{array}$	$\begin{array}{r} 1 \text{ m} = 1,000 \text{ mm} \\ \downarrow \qquad \downarrow \\ 1 \qquad 1000 \\ \times 3 \qquad \times 3 \\ \hline 3 \qquad 3000 \\ \downarrow \qquad \downarrow \\ 3 \text{ m} = 3,000 \text{ mm} \end{array}$	$\begin{array}{r} 1 \text{ m} = 100 \text{ cm} \\ \downarrow \qquad \downarrow \\ 1 \qquad 100 \\ \times 32 \qquad \times 32 \\ \hline 32 \qquad 3200 \\ \downarrow \qquad \downarrow \\ 32 \text{ m} = 3,200 \text{ cm} \end{array}$	$\begin{array}{r} 1 \text{ km} = 1,000 \text{ m} \\ \downarrow \qquad \downarrow \\ 1 \qquad 1000 \\ \times 15 \qquad \times 15 \\ \hline 15 \qquad 15000 \\ \downarrow \qquad \downarrow \\ 15 \text{ km} = 15,000 \text{ m} \end{array}$

Complete the following.

a

1. $4 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$25 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

2. $21 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

$25 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

3. $33 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$14 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

4. $15 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$47 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

5. $5 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

$84 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

6. $75 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$72 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

7. $10 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

$66 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

8. $21 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$19 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

b

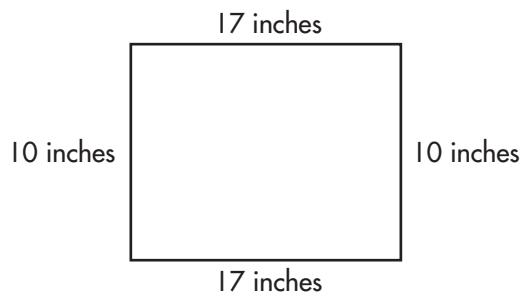
Lesson 7.9 Measuring Perimeter

Perimeter is the distance around a shape.

To calculate perimeter, add together the lengths of all the sides.

$$\text{Perimeter} = 17 \text{ in.} + 10 \text{ in.} + 17 \text{ in.} + 10 \text{ in.}$$

$$\text{Perimeter} = 54 \text{ in.}$$



Find the perimeter of each shape.

1. **a** **b** **c**
- 2.**
- 3.**

Lesson 7.10 Measuring Area

Area is the amount of space a shape covers.

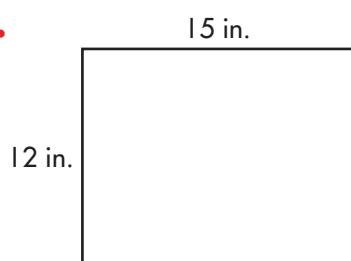
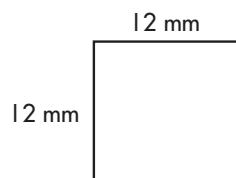
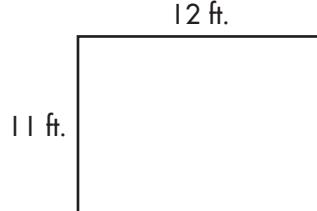
To find the area of a square or rectangle, multiply length by width.

$$\text{Area} = 100 \text{ ft.} \times 20 \text{ ft.} = 2,000 \text{ sq. ft.}$$

100 ft. (length)

20 ft.
(width)

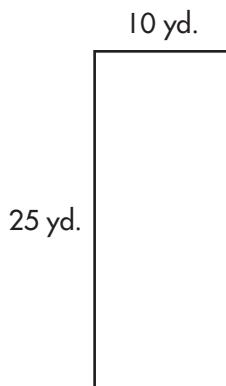
Find the area of each shape.

a**b****c**

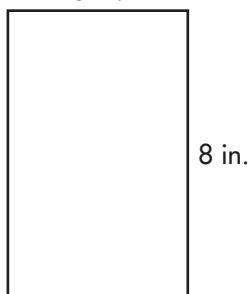
_____ sq. in.

_____ sq. mm

_____ sq. ft.

2.

5 in.



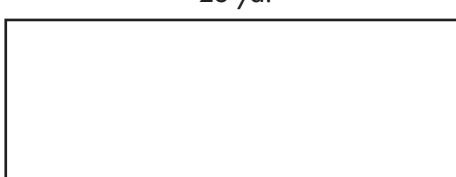
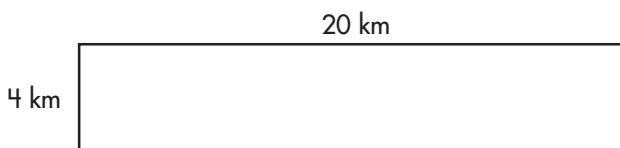
12 m

40 m

_____ sq. yd.

_____ sq. in.

_____ sq. m

3.**a****b**

_____ sq. yd.

_____ sq. km

Lesson 7.11 Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** John cleared a vacant lot to plant a garden. The lot measured 35 feet by 15 feet. What is the perimeter of the garden lot?

The perimeter of the lot is _____ feet.

- 2.** Freda is putting carpet down in a room that measures 20 feet long by 30 feet wide. What is the area of the room?

The area is _____ square feet.

- 3.** The zoo is building a new hippo pool that will measure 55 feet by 75 feet. What is the area of the pool?

The area is _____ square feet.

- 4.** Gabriel built a cage for his tropical birds. The cage measures 14 feet by 12 feet. What is the perimeter of the cage?

The perimeter of the cage is _____ feet.

- 5.** The Foster's deck was almost finished. Each side of the square deck was 25 feet long. What was the area of the deck?

The area was _____ square feet.

- 6.** The length of the walking track is 103 feet and the width is 50 feet. What is the perimeter of the track?

The perimeter is _____ feet.

- 7.** The college donated land for a park. The land is 750 feet long and 25 feet wide. What is the area of the land?

The area is _____ square feet.

1.**2.****3.****4.****5.****6.****7.**

Lesson 7.12 Liquid Volume (milliliters)

$$\begin{array}{l} 1 \text{ liter (L)} = 1,000 \text{ milliliters (mL)} \\ 1 \text{ L} = 1,000 \text{ mL} \end{array}$$

$$\begin{array}{rcl} 4 \text{ liters} & = & \underline{\hspace{2cm}} \text{ milliliters} \\ 1 \text{ liter} & = & 1,000 \text{ milliliters} \\ \downarrow & & \downarrow \\ 1 & & 1\,0\,0\,0 \\ \times 4 & & \times 4 \\ \hline 4 & & 4\,0\,0\,0 \\ \downarrow & & \downarrow \\ 4 \text{ liters} & = & 4,000 \text{ milliliters} \end{array}$$

Complete the following.

- | a | b | c |
|--|--|--|
| 1. $3 \text{ L} = \underline{\hspace{2cm}}$ mL | 12 L = $\underline{\hspace{2cm}}$ mL | $2 \text{ L} = \underline{\hspace{2cm}}$ mL |
| 2. $75 \text{ L} = \underline{\hspace{2cm}}$ mL | $10 \text{ L} = \underline{\hspace{2cm}}$ mL | $50 \text{ L} = \underline{\hspace{2cm}}$ mL |
| 3. $13 \text{ L} = \underline{\hspace{2cm}}$ mL | $78 \text{ L} = \underline{\hspace{2cm}}$ mL | $8 \text{ L} = \underline{\hspace{2cm}}$ mL |

SHOW YOUR WORK

Solve each problem.

- 4.** A pool for the dogs needs 75 liters of water.
How many milliliters of water are needed?

$\underline{\hspace{2cm}}$ milliliters of water are needed.

- 5.** Mitchell is making punch and needs 7,000 milliliters of pineapple juice. How many liters of juice does he need?

He needs $\underline{\hspace{2cm}}$ liters of juice.

- 6.** The pitcher holds 2 liters. How many pitchers does José need to fill a 24-liter punch bowl?

José needs $\underline{\hspace{2cm}}$ pitchers to fill the bowl.

4.

5.

6.

Lesson 7.13 Weight (milligrams, grams, and kilograms)

$\begin{array}{r} 13 \text{ g} = \underline{\hspace{2cm}} \text{ mg} \\ 1 \text{ g} = 1,000 \text{ mg} \\ \downarrow \qquad \downarrow \\ \qquad 1000 \\ \times 13 \qquad \times 13 \\ \hline 13 \qquad 13000 \\ \downarrow \qquad \downarrow \\ 13 \text{ g} = 13,000 \text{ g} \end{array}$	$\begin{array}{l} 1 \text{ gram (g)} = \\ 1,000 \text{ milligrams (mg)} \\ \qquad \downarrow \\ 1 \text{ g} = 1,000 \text{ mg} \end{array}$	$\begin{array}{r} 55 \text{ kg} = \underline{\hspace{2cm}} \text{ g} \\ 1 \text{ kg} = 1,000 \text{ g} \\ \downarrow \qquad \downarrow \\ \qquad 1000 \\ \times 55 \qquad \times 55 \\ \hline 55 \qquad 55000 \\ \downarrow \qquad \downarrow \\ 55 \text{ kg} = 55,000 \text{ g} \end{array}$	$\begin{array}{l} 1,000 \text{ grams (g)} = \\ 1 \text{ kilogram (kg)} \\ \qquad \downarrow \\ 1,000 \text{ g} = 1 \text{ kg} \end{array}$
---	---	--	--

Complete the following.

a

1. $6 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

b

$32 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

c

$45 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

2. $10 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

$42 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

$9 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

3. $105 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

$37 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

$12 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

4. $183 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

$18 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

$119 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

SHOW YOUR WORK

Solve each problem.

5. The bags Jon carries weigh 45,000 mg each. How many grams does each bag weigh?

Each bag weighs _____ grams.

5.

6. Teresa's vitamins contain 7,000 milligrams of vitamin E. How many grams of vitamin E does Teresa take in each vitamin?

Teresa takes _____ grams.

6.

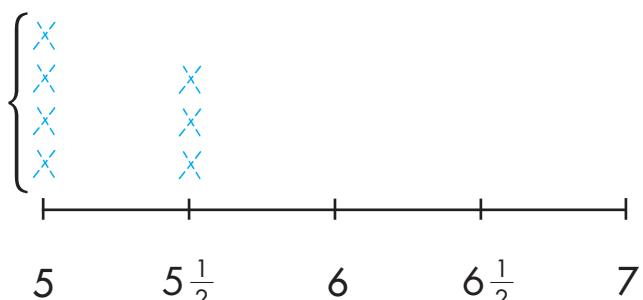
Lesson 7.14

Line Plots in Measurement

Use the table to complete the line plot. Then, answer the questions.

Lengths of Books on a Shelf in Inches	
5	
$5\frac{1}{2}$	
6	
$6\frac{1}{2}$	
7	

Lengths of Books on a Shelf in Inches

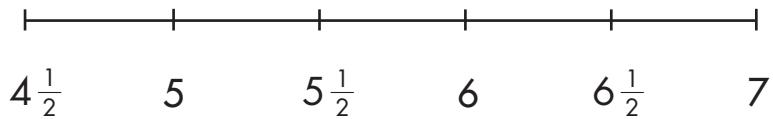


1. What is the difference between the longest and shortest books?

2. How many books measured 6 inches?

Cups of Sugar Used in Cookies	
$4\frac{1}{2}$	
5	
$5\frac{1}{2}$	
6	
$6\frac{1}{2}$	
7	

Cups of Sugar Used in Cookies



3. How many total cups of sugar were used to make cookies?

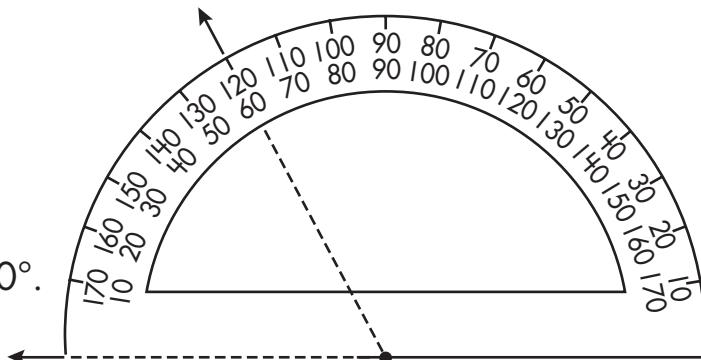
Lesson 7.15 Measuring Angles

A **protractor** is used to measure an angle. The angle is measured in degrees.

A **right angle** measures exactly 90° .

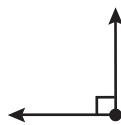
An **acute angle** measures less than 90° .

An **obtuse angle** measures greater than 90° but less than 180° .



Identify each angle as *right*, *acute*, or *obtuse*.

1.

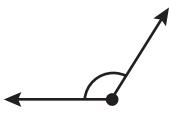
**a**

Type of Angle _____

b

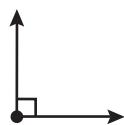
Type of Angle _____

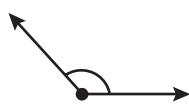
2.





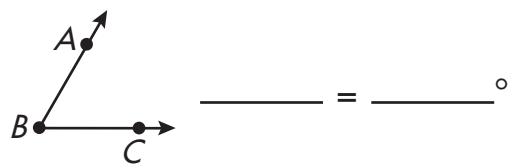
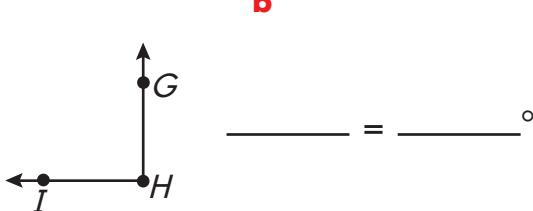
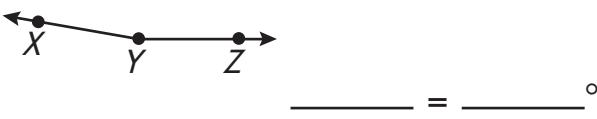
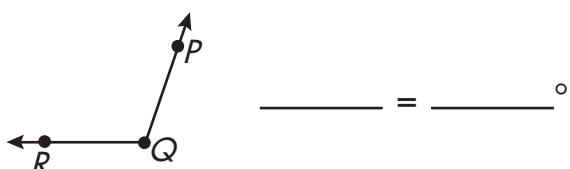
3.





Lesson 7.16 Measuring and Drawing Angles

Use a protractor to measure each angle.

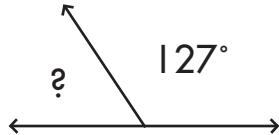
1.**a****b****2.****3.**

Draw an angle that measures the degrees given.

4. 90° **5.** 50° **6.** 125°

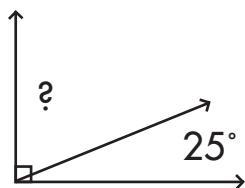
Lesson 7.17 Finding Missing Angles

To find the missing angle in a straight angle, subtract the given angle from 180° .



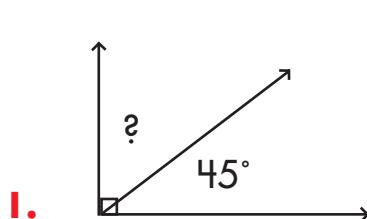
$$\begin{array}{r}
 \overset{7}{1} \overset{10}{8} \\
 180^\circ \\
 - 127^\circ \\
 \hline
 53^\circ
 \end{array}
 \quad \text{The missing angle is } 53^\circ.$$

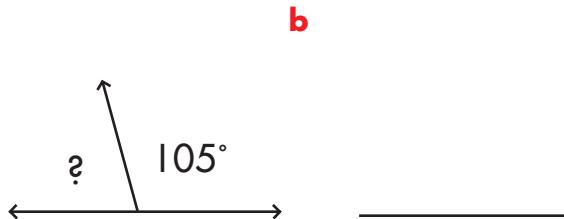
To find the missing angle in a right angle, subtract the given angle from 90° .

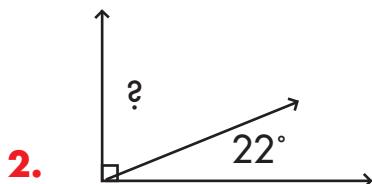


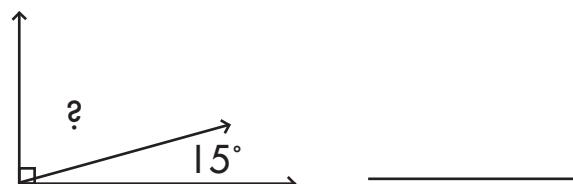
$$\begin{array}{r}
 \overset{8}{9} \overset{10}{0} \\
 90^\circ \\
 - 25^\circ \\
 \hline
 65^\circ
 \end{array}
 \quad \text{The missing angle is } 65^\circ.$$

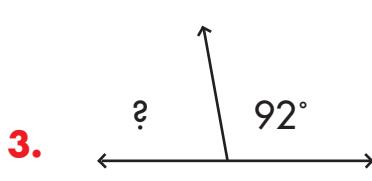
Find the value of the missing angles.

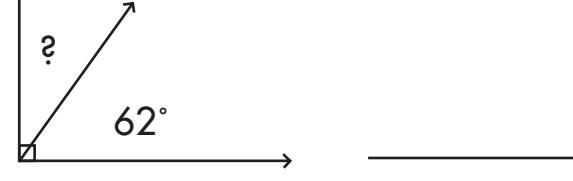


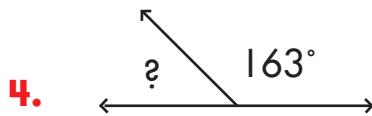


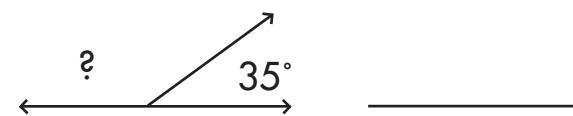














Check What You Learned

Measurement

Complete the following.

a

1. 4 ft. = _____ in. 5 lb. = _____ oz. 2 T. = _____ lb.

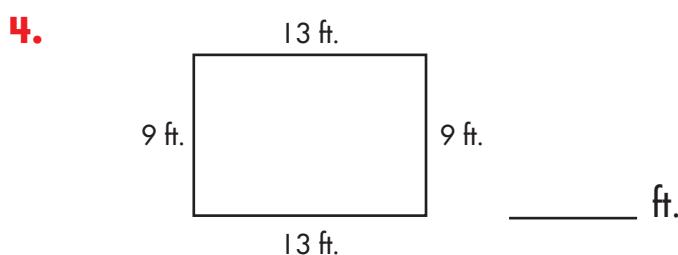
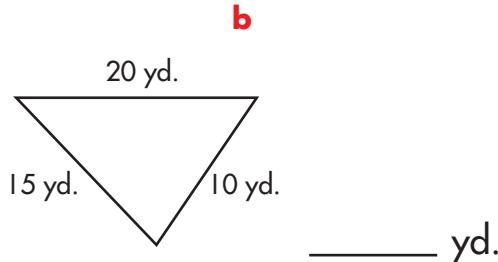
b

2. 4 qt. = _____ gal. 72 oz. = _____ c. 15 yd. = _____ ft.

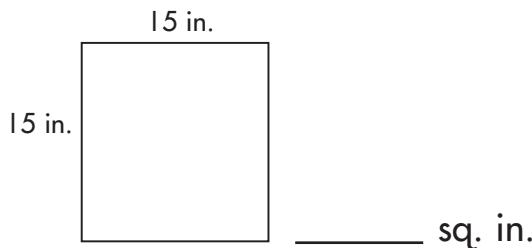
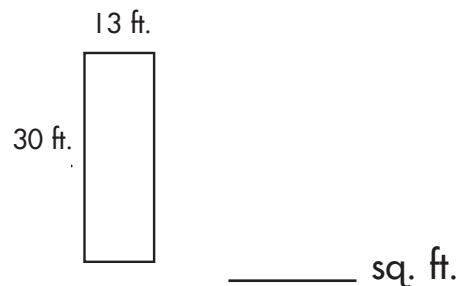
c

3. 5,280 yd. = _____ mi. 17 pt. = _____ c. 80 oz. = _____ lb.

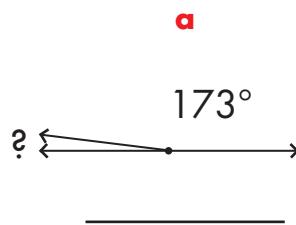
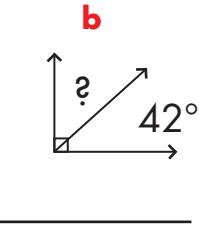
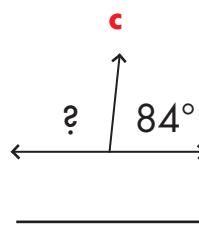
Find the perimeter of each shape.

a**b**

Find the area of each shape.

5.

Find the measure of each angle.

6.**b****c**



Check What You Learned

Measurement

SHOW YOUR WORK

Solve each problem.

7. The new refrigerator holds 16 quarts of juice. The old refrigerator held 2 quarts of juice. How many more gallons does the new refrigerator hold than the old one?

It holds _____ more gallons of juice.

8. The local dairy sold 60 pints of chocolate milk to one fourth grade class and 40 pints of milk to another fourth grade class. How many cups of milk did the dairy sell to both classes altogether?

The dairy sold _____ cups of milk in all.

9. At the store, a container of ice cream weighs 32 ounces. How many pounds do 4 containers of ice cream weigh?

Four containers weigh _____ pounds.

10. The area of a window measures 336 square inches. If the window is 16 inches wide, how long is the window?

The window is _____ inches long.

11. A swimming pool has a perimeter of 72 feet. The short sides measure 16 feet each. What is the length of the longer sides of the pool?

The longer sides of the pool measure _____ feet each.

7.

8.

9.

10.

11.



Check What You Learned

Measurement

Complete the following.

a

12. $600 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$

13. $13 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

14. $37 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

15. $44 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

16. $95 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

17. $5,000 \text{ m} = \underline{\hspace{2cm}} \text{ km}$

18. $56 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

19. $865 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

20. $267 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

21. $2 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

22. $22 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

23. $300 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

b

$2,050 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$4 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$15 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

$9 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

$220 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$76 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$232 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

$45 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

$26 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

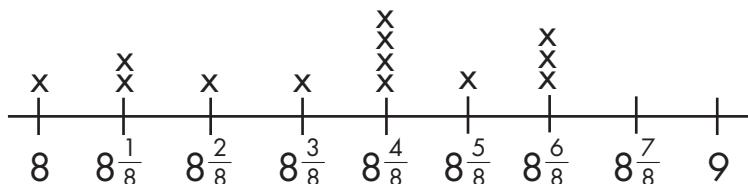
$15 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$67 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

$3,000 \text{ m} = \underline{\hspace{2cm}} \text{ km}$

Use the line plot to answer the questions.

Length of Sticks in Inches



- 24.**
- How many sticks measure
- $8\frac{4}{8}$
- inches?

- 25.**
- What is the difference between the longest stick measured and the shortest stick measured?



Check What You Learned

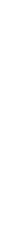
Measurement

Draw an angle that measures the degrees given.

a
26. 90°

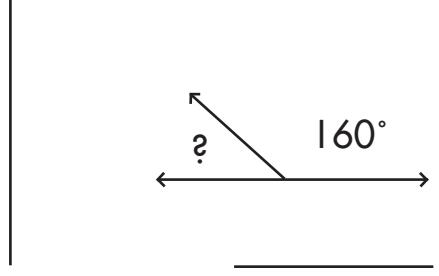
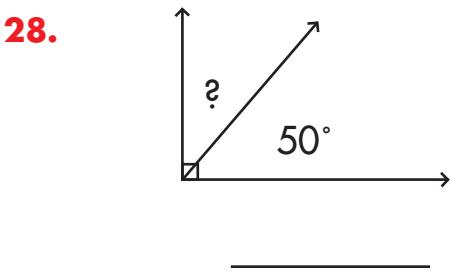
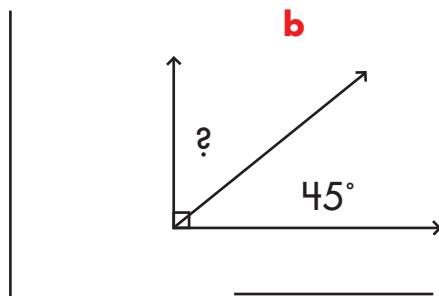
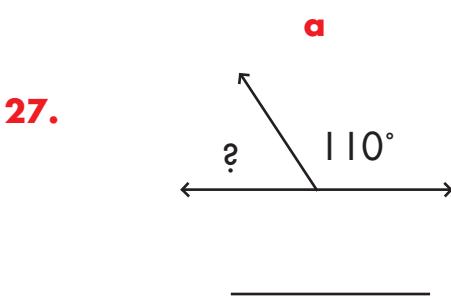


b
 130°



c
 175°

Find the missing angles



Solve each problem.

- 29.** A recipe listed 8 liters of evaporated milk and 6 liters of vanilla extract as ingredients. How many milliliters of milk and vanilla extract did the recipe call for?

The recipe called for _____ milliliters of milk and vanilla extract.

- 30.** Bob ran 75 kilometers today and 62 kilometers the day before. How many meters did he run in all?

Bob ran _____ meters.

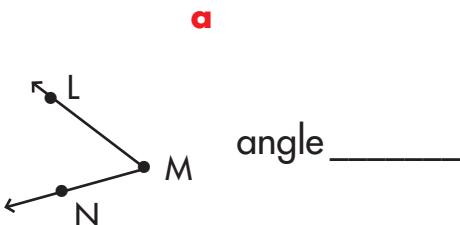


Check What You Know

Geometry

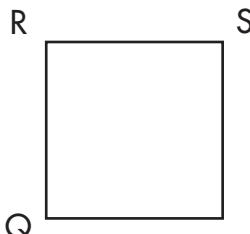
Identify the angles given.

1.



angle _____

b

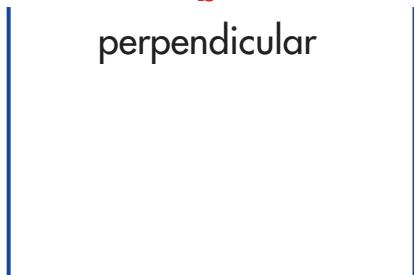


angle _____

Draw each type of line.

2.

a parallel



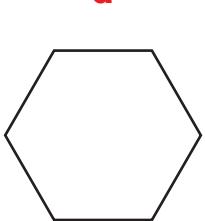
b perpendicular



c intersecting

Draw the line (or lines) of symmetry for each figure.

3.

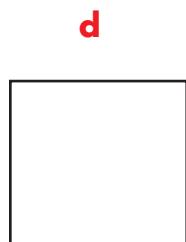


a

b



c



d

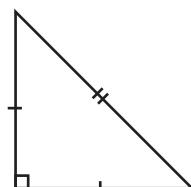
Identify the quadrilateral.

4.

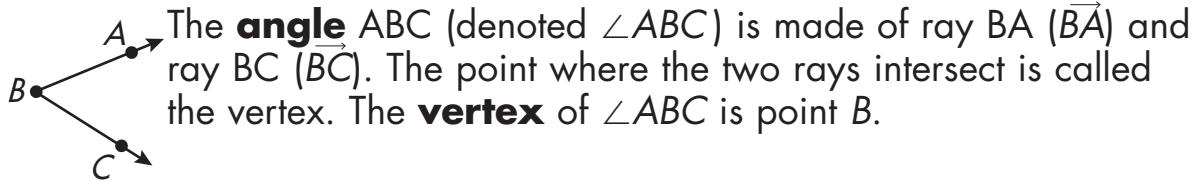


Identify the triangle.

5.



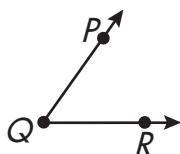
Lesson 8.1 Points, Lines, Rays, and Angles



An angle can be measured using a **protractor**. A protractor measures angles that range from 0° to 180° .

Identify or draw the rays and vertex of each angle. Name or label the angle.

1.

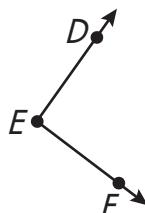


a

rays: _____

vertex: _____
angle: _____

b



rays: _____

vertex: _____
angle: _____

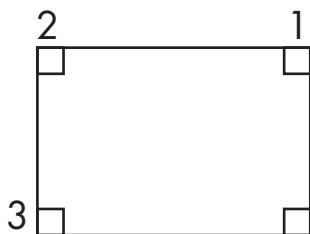
2.

rays: \overrightarrow{LM}
 \overrightarrow{MN}
vertex: M
angle: $\angle LMN$

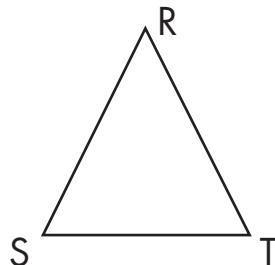
rays: \overrightarrow{BC}
 \overrightarrow{BA}
vertex: B
angle: $\angle CBA$

Identify an angle in each figure shown. Draw a figure for each angle given.

3.



angle: _____



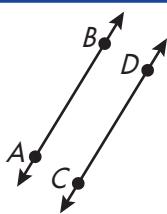
angle: _____

4.

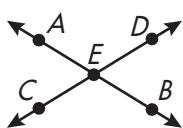
$\angle XYZ$

$\angle 678$

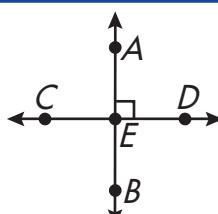
Lesson 8.2 Parallel and Perpendicular Lines



Lines like \overleftrightarrow{AB} and \overleftrightarrow{CD} are called **parallel lines** since they have no points in common. \overleftrightarrow{AB} and \overleftrightarrow{CD} will never intersect.



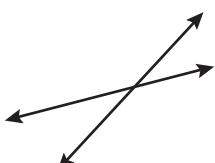
Lines like \overleftrightarrow{AB} and \overleftrightarrow{CD} are called **intersecting lines**. They have one point in common, point E. \overleftrightarrow{AB} intersects \overleftrightarrow{CD} at point E.



Lines like \overleftrightarrow{AB} and \overleftrightarrow{CD} are called **perpendicular lines**. They form a right angle, shown by the symbol \square in the angle.

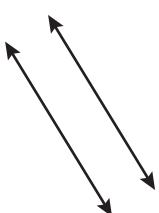
Identify each pair of lines as *parallel*, *intersecting*, or *perpendicular*.

1.



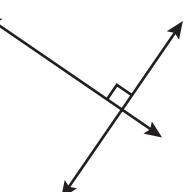
Type of Lines _____

2.



Type of Lines _____

3.



Type of Lines _____

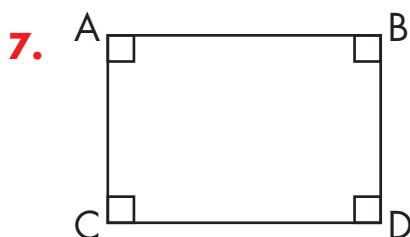
Draw each type of line below.

4. parallel

5. intersecting

6. perpendicular

Identify the lines in the figure that are parallel and perpendicular.



parallel _____

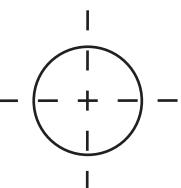
perpendicular _____

Lesson 8.3 Symmetrical Shapes

A figure or shape is **symmetrical** when one-half of the figure is the mirror image of the other half.

A **line of symmetry** divides a figure or shape into two halves that are congruent.

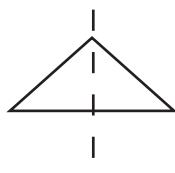
A circle is symmetrical.



A circle has many lines of symmetry.

State whether the line drawn on each figure is a line of symmetry. Write yes or no.

1.

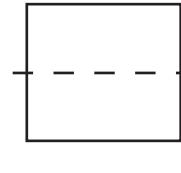


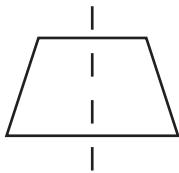
a

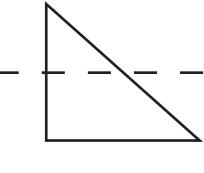
b

c

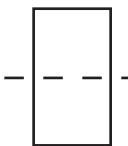
d

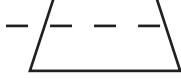


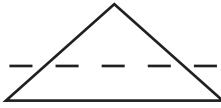


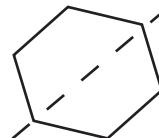


2.



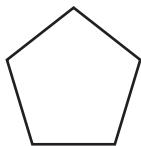




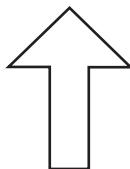


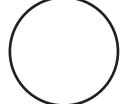
Label each figure as *not symmetrical* or *symmetrical*. If the figure is symmetrical, draw the line (or lines) of symmetry.

3.

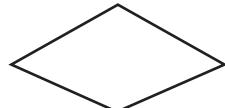


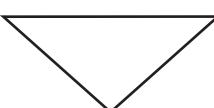


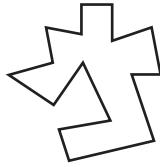




4.



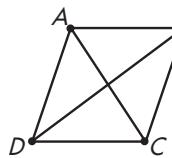






Lesson 8.4 Quadrilaterals

A **quadrilateral** is a polygon with four sides. Some examples are square, rectangle, parallelogram, rhombus, kite, and trapezoid.



parallelogram

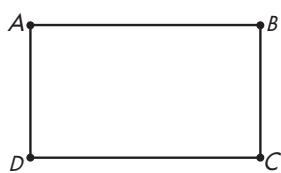
$$\angle DAB = \angle BCD,$$

$$\angle ADC = \angle CBA$$

$$\overline{AB} = \overline{DC}, \overline{AD} = \overline{BC}$$

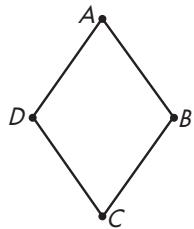
\overline{AC} bisects \overline{BD} , \overline{BD} bisects \overline{AC} .

$\triangle ADC$ is congruent to $\triangle CBA$.

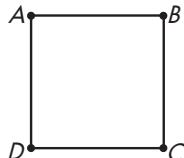


A **rectangle** is a parallelogram with four right angles.

Opposite sides are equal. $\overline{AB} = \overline{DC}$, $\overline{AD} = \overline{BC}$, $\angle BAD = \angle ABC = \angle BCD = \angle CDA = 90^\circ$.



A **kite** has 2 pairs of adjacent sides that are congruent.

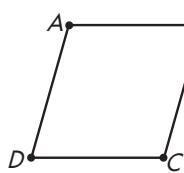


A **square** is a rectangle with 4 sides of same length and all angles equal.

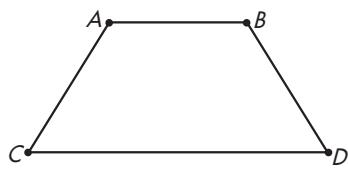
$$\overline{AB} = \overline{BC} = \overline{CD} = \overline{DA}$$

$$\angle ADC = \angle DCB, \angle CBA =$$

$$\angle BAD = 90^\circ.$$



A **rhombus** is a parallelogram with all four sides the same length. Opposite angles are the same measure.



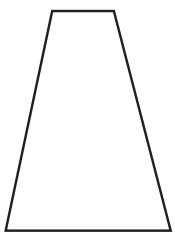
A **trapezoid** has just 2 sides that are parallel.

Identify each quadrilateral.

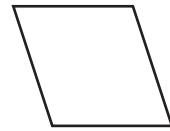
a



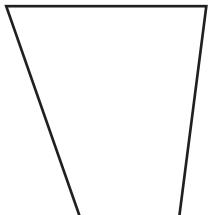
b

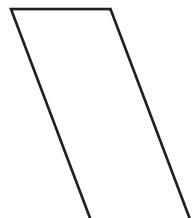


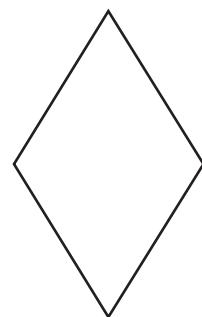
c



2.

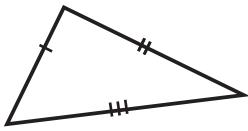




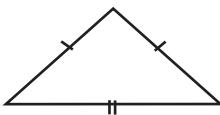


Lesson 8.5 Triangles

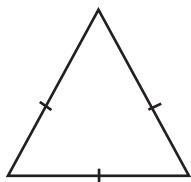
A **triangle** is a polygon with 3 sides. Some examples are equilateral, scalene, isosceles, right, obtuse, and acute.



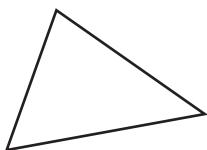
In a scalene triangle, all 3 sides have different lengths. Its angles are also all different.



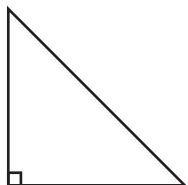
In an isosceles triangle, 2 sides have equal lengths. Two of its angles are also equal.



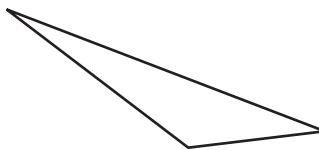
In an equilateral triangle, all 3 sides are the same length. All three angles equal 60° .



In an acute triangle, all angles are less than 90° .



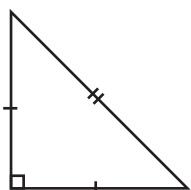
A right triangle has 1 right angle.



An obtuse triangle has 1 angle that measures more than 90° .

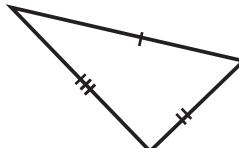
Identify each of the triangles.

1.

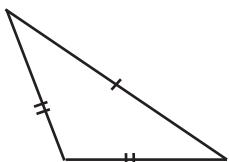


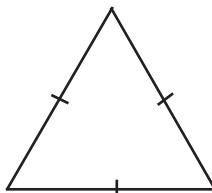
a

b



2.



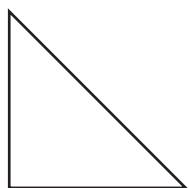
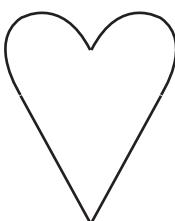
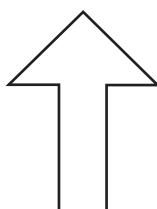
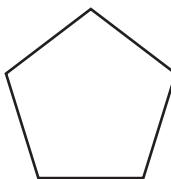




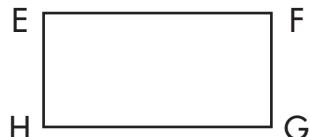
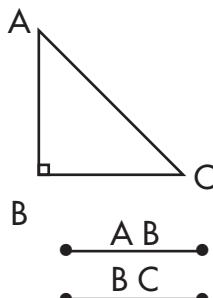
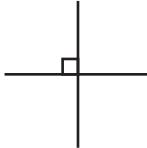
Check What You Learned

Geometry

Draw the line (or lines) of symmetry if the shape is symmetrical.

a**b****c****d**

Identify the lines as *perpendicular*, *parallel*, or *intersecting*.

2.

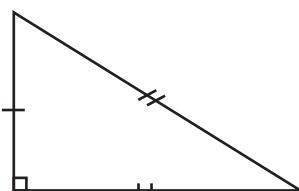
Draw each angle.

a**3.** $\angle QRS$ **b** $\angle 567$ **c** $\angle DEF$

Identify the quadrilateral.

4.

Identify the triangle.

5.



Check What You Know

Preparing for Algebra

Complete the number patterns.

a

1. 2, 3, 5, 2, , ,

b

- 20, 30, 10, 40, 20, , ,

2. 75, 50, 25, 10, 75, , , 1, 3, 5, 1, 3, , ,

Determine the number patterns and complete.

3. 5, 10, 15, 20, , , 510, 508, 506, , ,

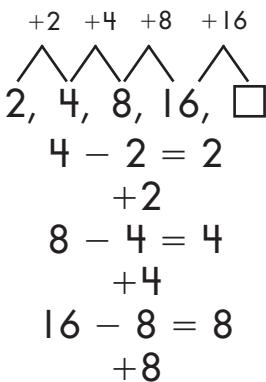
4. 4, 8, 16, 32, , , 78, 87, 99, 114, , 153,

Complete the geometric patterns.

- 5.

- 6.

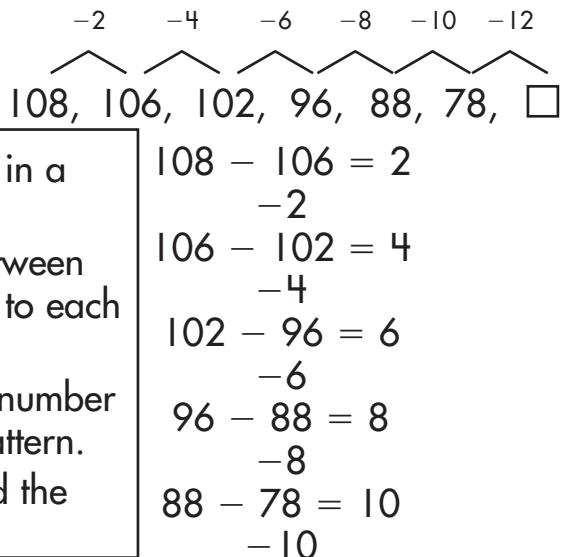
Lesson 9.1 Growing Number Patterns

Increasing Pattern


Think: Each number is added to itself to create the increasing pattern.

$$16 + 16 = 32$$

The missing number is 32.

Decreasing Pattern


- To find a missing number in a growing pattern:
- Find the difference between numbers that are next to each other.
 - The differences in the number series will show the pattern.
 - Add or subtract to find the missing numbers.

Think: Count by 2s to get the number for the decreasing pattern.

$$78 - 12 = 66$$

The missing number is 66.

Complete each pattern.

a

1. 11, 15, 20, 26, 33, ,

2. 1, 2, 4, 7, , 16, 22

3. 5, 7, 11, 17, , 35,

4. 1128, 1096, 1032, 936,

5. 460, 450, 430, , 360,

6. 180, 176, 168, 156, 140,

7. , , 65, 80, 100, 125

b

9, 12, 18, 27, , 54,

16, 28, 52, 100, 196,

158, 156, 152, 146, , ,

88, 110, 154, 220, ,

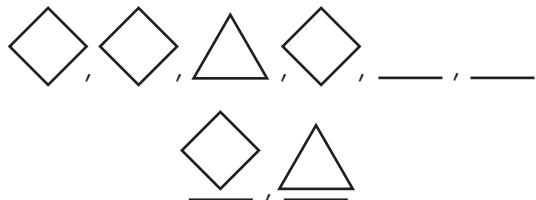
923, 915, 904, 890, ,

64, 74, 86, 100,

, , 54, 96, 152, 222

Lesson 9.2 Geometric Patterns

What are the next 2 objects in this pattern?



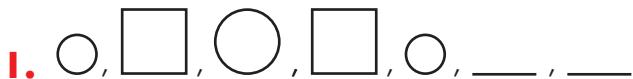
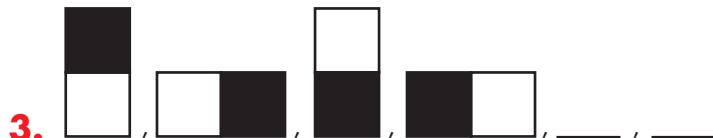
Cross out the object that is not in the correct sequence.

What should be the correct object?

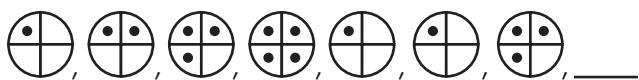


The object should be a hexagon.

Draw the next 2 objects in each pattern.

a**b**

Find the object that is out of sequence. Cross it out. Draw the correct object on the blank line.





Check What You Learned

Preparing for Algebra

Complete the number patterns.

a

- 1.** 25, 24, 23, 25, ,

b

- 256, 257, 256, 258, ,

- 2.** 66, 55, 44, ,

- 570, 551, 531, 510, , 465, ,

- 3.** 14, 28, 44, 62, ,

- , 26, , 42, 53, 66, 81

Draw the objects that complete the pattern.

- 4.**  , , , , ,

- , , , , , ,

- 5.**  , , ,

Final Test Chapters 1–9

Add.

a

$$\begin{array}{r} 21 \\ + 15 \\ \hline \end{array}$$

b

$$\begin{array}{r} 1932 \\ + 32 \\ \hline \end{array}$$

c

$$\begin{array}{r} 718 \\ + 72 \\ \hline \end{array}$$

d

$$\begin{array}{r} 247 \\ + 38 \\ \hline \end{array}$$

e

$$\begin{array}{r} 1005 \\ + 49 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 2498 \\ + 1832 \\ \hline \end{array}$$

$$\begin{array}{r} 787 \\ + 193 \\ \hline \end{array}$$

$$\begin{array}{r} 6918 \\ + 5832 \\ \hline \end{array}$$

$$\begin{array}{r} 957 \\ + 98 \\ \hline \end{array}$$

$$\begin{array}{r} 2950 \\ + 709 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 25765 \\ + 5403 \\ \hline \end{array}$$

$$\begin{array}{r} 7864 \\ + 3258 \\ \hline \end{array}$$

$$\begin{array}{r} 20048 \\ + 7212 \\ \hline \end{array}$$

$$\begin{array}{r} 18970 \\ + 2718 \\ \hline \end{array}$$

$$\begin{array}{r} 50908 \\ + 7312 \\ \hline \end{array}$$

$$\begin{array}{r} + 8903 \\ \hline \end{array}$$

Subtract.

4.

$$\begin{array}{r} 98 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 87 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ - 7 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 705 \\ - 178 \\ \hline \end{array}$$

$$\begin{array}{r} 6005 \\ - 736 \\ \hline \end{array}$$

$$\begin{array}{r} 7132 \\ - 5600 \\ \hline \end{array}$$

$$\begin{array}{r} 9568 \\ - 7432 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ - 445 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 461 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 1353 \\ - 72 \\ \hline \end{array}$$

$$\begin{array}{r} 777 \\ - 23 \\ \hline \end{array}$$

$$\begin{array}{r} 2525 \\ - 518 \\ \hline \end{array}$$

$$\begin{array}{r} 905 \\ - 87 \\ \hline \end{array}$$

Final Test Chapters 1–9

Multiply.

- | | a | b | c | d | e |
|------------|---|---|---|---|---|
| 7. | $\begin{array}{r} 78 \\ \times 9 \\ \hline \end{array}$ | $\begin{array}{r} 56 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 97 \\ \times 9 \\ \hline \end{array}$ | $\begin{array}{r} 48 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 25 \\ \times 9 \\ \hline \end{array}$ |
| 8. | $\begin{array}{r} 98 \\ \times 98 \\ \hline \end{array}$ | $\begin{array}{r} 78 \\ \times 15 \\ \hline \end{array}$ | $\begin{array}{r} 48 \\ \times 36 \\ \hline \end{array}$ | $\begin{array}{r} 77 \\ \times 54 \\ \hline \end{array}$ | $\begin{array}{r} 83 \\ \times 27 \\ \hline \end{array}$ |
| 9. | $\begin{array}{r} 702 \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 389 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 215 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 247 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 509 \\ \times 8 \\ \hline \end{array}$ |
| 10. | $\begin{array}{r} 7035 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 2003 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 3972 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 5931 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 2450 \\ \times 5 \\ \hline \end{array}$ |

Divide.

- | | | | | | |
|------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 11. | $3\overline{)45}$ | $9\overline{)72}$ | $4\overline{)40}$ | $5\overline{)94}$ | $5\overline{)85}$ |
| 12. | $6\overline{)493}$ | $3\overline{)873}$ | $7\overline{)875}$ | $5\overline{)987}$ | $8\overline{)800}$ |
| 13. | $7\overline{)2598}$ | $2\overline{)5282}$ | $6\overline{)5631}$ | $4\overline{)9637}$ | $5\overline{)2515}$ |
| 14. | $6\overline{)9832}$ | $8\overline{)5000}$ | $5\overline{)7004}$ | $7\overline{)5111}$ | $8\overline{)9840}$ |

Final Test Chapters 1–9

Write each number in expanded form.

15. $\begin{array}{r} \text{a} \\ 2,337 \end{array}$

b 397

16. $55,608$

$69,735$

Round each of the numbers to the place of the underlined number.

17. $103,\underline{4}67$

$1,785,302$

18. $23,\underline{4}56$

$5\underline{7}5$

Write $>$, $<$, or $=$ to compare the following.

19. $\begin{array}{r} \text{a} \\ 325 \end{array} \bigcirc \begin{array}{r} 225 \end{array}$

b $12,700 \bigcirc 12,703$

c $164,000 \bigcirc 146,000$

Add or subtract.

20. $\frac{5}{6} + \frac{1}{6} = \underline{\hspace{2cm}}$ $\frac{7}{12} + \frac{3}{12} = \underline{\hspace{2cm}}$ $\frac{6}{8} + \frac{4}{8} = \underline{\hspace{2cm}}$

Complete each equivalent fraction.

21. $\frac{8}{32} = \frac{1}{\underline{4}}$ $\frac{1}{10} = \frac{\underline{4}}{40}$ $\frac{4}{100} = \frac{1}{\underline{25}}$

Write $>$, $<$, or $=$ to compare the following.

22. $\frac{3}{8} \bigcirc \frac{10}{12}$ $\frac{3}{12} \bigcirc \frac{1}{3}$ $\frac{3}{6} \bigcirc \frac{4}{8}$

Final Test Chapters 1–9

Write the decimal equivalent to the given fraction.

a**b****c****d**

23. $\frac{8}{10} = \underline{\hspace{2cm}}$ $\frac{7}{100} = \underline{\hspace{2cm}}$ $\frac{3}{10} = \underline{\hspace{2cm}}$ $\frac{6}{10} = \underline{\hspace{2cm}}$

Complete the following.

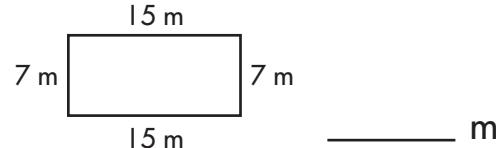
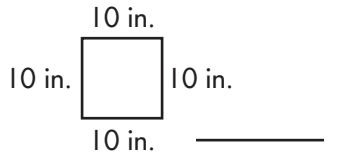
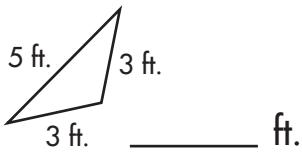
a**b****c**

24. 36 in. $\underline{\hspace{2cm}}$ yd. $7 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$ $5 \text{ T.} = \underline{\hspace{2cm}} \text{ lb.}$

25. 12 c. $= \underline{\hspace{2cm}}$ pt. $72 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$ $132 \text{ ft.} = \underline{\hspace{2cm}} \text{ yd.}$

26. 20 m $= \underline{\hspace{2cm}}$ mm $14 \text{ km} = \underline{\hspace{2cm}} \text{ m}$ $22 \text{ l} = \underline{\hspace{2cm}} \text{ mL}$

Find the perimeter of each shape.

27.

Find the area of each rectangle.

a**b****c****d**

28. $30 \text{ ft.} \times 5 \text{ ft.} = \underline{\hspace{2cm}} \text{ sq. ft.}$ $22 \text{ cm} \times 8 \text{ cm} = \underline{\hspace{2cm}} \text{ sq. cm}$ $10 \text{ in.} \times 30 \text{ in.} = \underline{\hspace{2cm}} \text{ sq. in.}$ $82 \text{ mm} \times 25 \text{ mm} = \underline{\hspace{2cm}} \text{ sq. mm}$

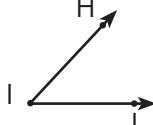
Solve the problem.

- 29.** Mary is putting new trim and new carpeting in her living room. Her living room is a rectangle, with the long sides measuring 20 feet and the short sides measuring 10 feet. Find the perimeter to see how much trim she will need, and find the area to see how much carpeting Mary will need.

A = $\underline{\hspace{2cm}}$ P = $\underline{\hspace{2cm}}$

Final Test Chapters 1–9

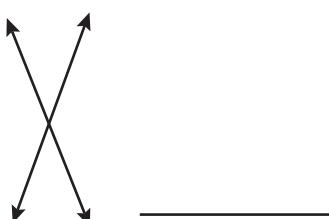
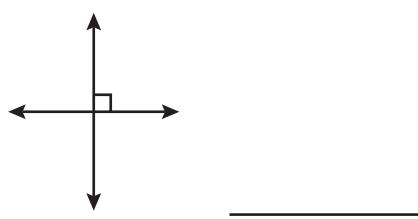
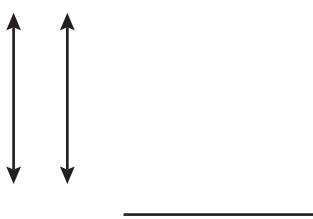
Use a protractor to measure each angle.

- 30.**  **a** $\angle \underline{\quad} = \underline{\quad}^\circ$
-  **b** $\angle \underline{\quad} = \underline{\quad}^\circ$

Draw and label a shape with the angle given.

- 31.** **a** $\angle KLM$ **b** $\angle 123$ **c** $\angle OPQ$

Identify each pair of lines as *parallel*, *perpendicular*, or *intersecting*.

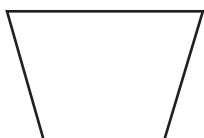
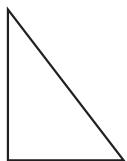
- 32.** **a**  **b**  **c** 

Write the next number in the sequence.

- 33.** **a** 45, 48, 51, **b** 52, 57, 64, 73, 84, ,
- 34.** 1245, 1195, 1145, , 25, , 75, 100, , 150, 175

Final Test Chapters 1–9

Draw the line (or lines) of symmetry for each figure.

a**b****c****d**

Add or subtract. Write answers in simplest form.

$$\begin{array}{r} 3 \frac{1}{10} \\ + 4 \frac{9}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 6 \frac{3}{5} \\ - 4 \frac{2}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 3 \frac{3}{4} \\ - 1 \frac{1}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 1 \frac{5}{7} \\ + 6 \frac{4}{7} \\ \hline \end{array}$$

Multiply.

$$\begin{array}{r} \frac{2}{3} \times 3 = \underline{\quad} \\ 2 \times \frac{7}{12} = \underline{\quad} \\ 7 \times \frac{3}{4} = \underline{\quad} \\ \frac{4}{7} \times 2 = \underline{\quad} \end{array}$$

SHOW YOUR WORK

Write each number sentence. Then, solve each problem.

- 38.** The track team ran 10 miles on Saturday. There are 1,760 yards in a mile. How many yards did the track team run?

$$\underline{\quad} \text{ } \underline{\quad} \text{ } \underline{\quad} = \underline{\quad}$$

The track team ran _____ yards.

- 39.** A certain type of blue snake can grow to 28 feet. There are 3 of these snakes in the local zoo. How many feet of blue snakes will the zoo have when these 3 are fully grown?

$$\underline{\quad} \text{ } \underline{\quad} \text{ } \underline{\quad} = \underline{\quad}$$

The zoo will have _____ feet of blue snakes.

38.**39.**

Scoring Record for Chapter Posttests, Mid-Test, and Final Test

Chapter Posttest	Your Score	Performance			
		Excellent	Very Good	Fair	Needs Improvement
1	____ of 53	50–53	44–49	33–43	32 or fewer
2	____ of 62	56–62	50–55	44–49	43 or fewer
3	____ of 45	43–45	37–42	28–36	27 or fewer
4	____ of 43	40–43	36–39	31–35	30 or fewer
5	____ of 41	40–41	33–39	29–32	28 or fewer
6	____ of 30	27–30	24–26	21–23	20 or fewer
7	____ of 56	52–56	46–51	41–45	40 or fewer
8	____ of 13	13	11–12	9–10	8 or fewer
9	____ of 20	18–20	16–17	14–15	13 or fewer
Mid-Test	____ of 182	170–182	147–169	110–146	109 or fewer
Final Test	____ of 145	133–145	119–132	103–118	102 or fewer

Record your test score in the Your Score column. See where you score falls in the Performance columns. Your score is based on the total number of required responses. If your score is fair or needs improvement, review the chapter material.

Grade 4 Answers

Chapter 1

Pretest, page 5

	a	b	c	d	e	f
1.	38	38	99	25	49	87
2.	67	59	94	98	55	89
3.	83	97	57	98	69	79
4.	19	48	78	89	96	77
5.	41	52	52	64	62	13
6.	22	11	21	52	21	32
7.	10	45	12	71	14	11
8.	31	11	10	33	62	21

Pretest, page 6

9. 36 10. 21 11. 32 12. 21 13. 11

Lesson 1.1, page 7

	a	b	c	d	e	f
1.	19	40	39	99	69	97
2.	90	9	19	99	77	80
3.	29	50	99	99	69	90
4.	43	60	99	58	29	70
5.	45	42	49	80	97	79
6.	68	73	39	7	19	77
7.	35	15	87	91	49	62

Lesson 1.2, page 8

	a	b	c	d	e	f
1.	21	23	61	5	70	61
2.	64	21	12	10	31	10
3.	10	90	20	32	17	1
4.	13	11	8	13	7	2
5.	31	71	32	61	71	1
6.	44	10	4	14	11	52
7.	12	51	23	15	22	22

Lesson 1.3, page 9

	a	b	c	d	e	f	g	h
1.	12	11	15	16	17	18	17	14
2.	18	10	13	16	19	20	17	13
3.	20	16	13	16	21	18	16	21
4.	16	19	22	18	14	25	19	21
5.	20	19	25	14	17	17	26	18
6.	19	22	18	19	22	21	20	16

Lesson 1.4, page 10

	a	b	c	d	e	f
1.	51	47	80	31	80	35
2.	91	64	74	81	34	70
3.	91	78	50	90	84	91
4.	63	62	81	70	54	90
5.	90	57	84	91	37	80
6.	68	56	38	85	33	81
7.	82	82	72	96	38	60

Lesson 1.5, page 11

	a	b	c	d	e	f
1.	102	163	194	245	167	139
2.	208	138	220	222	170	276
3.	115	260	144	136	198	105
4.	231	207	230	243	214	166
5.	310	124	242	222	198	227
6.	204	204	222	203	123	231

Lesson 1.6, page 12

	a	b	c	d	e	f
1.	137	115	119	105	116	118
2.	109	118	105	108	119	134
3.	112	146	119	115	143	134
4.	115	109	115	115	107	116
5.	132	119	115	119	126	119
6.	109	136	127	138	133	136
7.	119	128	136	109	125	118

Lesson 1.6, page 13

	a	b	c	d	e	f
1.	79	83	89	69	89	89
2.	82	86	88	86	83	87
3.	77	78	89	89	78	86
4.	34	77	67	79	69	73
5.	89	78	79	86	86	58
6.	88	86	58	79	87	46
7.	69	48	77	49	69	78

Lesson 1.7, page 14

	a	b	c	d	e	f
1.	32	63	38	52	28	75
	+47	+19	+24	+47	+15	+15
	79	82	62	99	43	90
	-47	-19	-24	-47	-15	-15
	32	63	38	52	28	75
2.	48	82	56	44	28	39
	+27	+10	+38	+27	+27	+32
	75	92	94	71	55	71
	-27	-10	-38	-27	-27	-32
	48	82	56	44	28	39
3.	31	43	61	125	155	205
	+59	+18	+29	+17	+38	+69
	90	61	90	142	193	274
	-59	-18	-29	-17	-38	-69
	31	43	61	125	155	205
4.	199	128	125	109	155	137
	+14	+33	+50	+32	+27	+29
	213	161	175	141	182	166
	-14	-33	-50	-32	-27	-29
	199	128	125	109	155	137

Grade 4 Answers

Lesson 1.8, page 15

	a	b	c	d	e	f
1.	88	23	47	95	74	98
	-45	-19	-28	-38	-27	-73
	43	4	19	57	47	25
	+45	+19	+28	+38	+27	+73
	88	23	47	95	74	98
2.	38	68	54	49	29	78
	-17	-27	-36	-32	-10	-39
	21	41	18	17	19	39
	+17	+27	+36	+32	+10	+39
	38	68	54	49	29	78
3.	155	132	179	127	141	137
	-28	-38	-82	-89	-62	-52
	127	94	97	38	79	85
	+28	+38	+82	+89	+62	+52
	155	132	179	127	141	137
4.	187	119	192	108	188	164
	-99	-20	-73	-39	-90	-78
	88	99	119	69	98	86
	+99	+20	+73	+39	+90	+78
	187	119	192	108	188	164

Lesson 1.9, page 16

1. 86 2. 173 3. 207 4. 335 5. 214

Posttest, page 17

	a	b	c	d	e	f
1.	70	78	52	101	299	100
2.	31	55	306	246	211	204
3.	34	295	165	176	121	82
4.	104	480	64	100	136	87
5.	213	89	23	44	18	28
6.	73	69	189	39	145	11
7.	19	89	19	110	115	58
8.	99	40	25	99	75	63

Posttest, page 18

9. 100 10. 112 11. 82 12. 200 13. 295

Chapter 2

Pretest, page 19

- 1a. $3,000 + 200 + 40 + 5$ 1b. $900 + 70 + 3$
 1c. $50 + 1$
 2a. $6,000 + 600 + 70 + 5$
 2b. $800,000 + 40,000 + 5,000 + 400 + 50$
 2c. $700 + 90$
 3a. nine hundred forty-five
 3b. four thousand three hundred thirty-two
 4a. fifty-two thousand three hundred twenty-one

4b. five hundred twenty-eight thousand four hundred fifty-five

5a. four hundred ninety-five thousand three hundred sixty-two

5b. nine million three hundred sixty-five thousand seven hundred thirty-two

6a. $4,312 > 4,213$ 6b. $95 > 58$ 6c. $408 < 480$

7a. $52,650 > 52,560$ 7b. $610 < 672$ 7c. $72 > 62$

8a. $52,173 < 520,173$ 8b. $4,675,321 < 4,751,670$

8c. $25 < 52$

9a. $158,325 = 158,325$ 9b. $652 > 256$

9c. $8,910,003 = 8,910,003$

Pretest, page 20

	a	b	c
10.	8,000	900	600,000
11.	10,000,000	80	1,700
12.	80,000	930	682,000
	a	b	c
13.	90,000	9	900,000
14.	9,000,000	9,000	9,000
15.	900	9	90,000
			9,000,000

Lesson 2.1, page 21

- 1a. $50 + 4$ 1b. $600 + 8$
 1c. $30 + 2$ 1d. $400 + 20 + 1$
 2a. $400 + 30$ 2b. $500 + 40 + 9$
 2c. $70 + 5$ 2d. $600 + 90 + 9$
 3a. $100 + 30 + 2$ 3b. $700 + 20 + 1$
 3c. $30 + 9$ 3d. $80 + 7$
 4a. $900 + 10 + 1$ 4b. $500 + 10 + 3$
 4c. $100 + 90$ 4d. 70

	a	b	c	d
5.	70	900	6	4
6.	700	60	0	900
	a	b	c	d

7. eighty-five thousand thirty-four
 8. eleven thousand nine hundred eighty-seven

Lesson 2.2, page 22

1. one hundred fifty-two thousand seven hundred thirty-one
 2. nine hundred eighty-five thousand six hundred eighty-five

	a	b
3.	5	9
4.	9	0
5.	6	9
6a.	600,000 + 50,000 + 3,000 + 400 + 10	
6b.	70,000 + 6,000 + 900 + 80 + 2	
7a.	60,000 + 2,000 + 500 + 10 + 2	
7b.	100,000 + 3,000 + 200 + 50 + 4	
8a.	100,000 + 90,000 + 9,000 + 400 + 80 + 2	

Grade 4 Answers

8b. $30,000 + 2,000 + 400 + 50 + 1$

Lesson 2.3, page 23

1a. 6,420 1b. 5,880 1c. 45,290

1d. 980 1e. 13,940 1f. 840

2a. 9,860 2b. 26,920 2c. 980

2d. 95,650 2e. 8,670 2f. 29,980

3a. 325,800 3b. 49,800 3c. 123,700

3d. 24,600 3e. 199,800 3f. 79,300

4a. 798,800 4b. 58,300 4c. 9,900

4d. 8,400 4e. 10,100 4f. 1,987,700

5a. 568,000 5b. 94,000 5c. 4,000

5d. 12,000 5e. 747,000 5f. 9,000

6a. 987,000 6b. 346,000 6c. 98,000

6d. 9,000 6e. 75,000 6f. 187,000

Lesson 2.3, page 24

1a. 730,000 1b. 1,460,000 1c. 740,000

1d. 5,550,000 1e. 50,000

2a. 180,000 2b. 7,740,000 2c. 30,000

2d. 480,000 2e. 5,640,000

3a. 4,800,000 3b. 400,000 3c. 9,300,000

3d. 8,000,000 3e. 500,000

4a. 8,700,000 4b. 1,100,000 4c. 400,000

4d. 9,700,000 4e. 600,000

5a. 7,000,000 5b. 7,000,000 5c. 2,000,000

5d. 4,000,000 5e. 8,000,000

6a. 2,000,000 6b. 4,000,000 6c. 7,000,000

6d. 6,000,000 6e. 8,000,000

Lesson 2.4, page 25

1a. $105 < 120$ 1b. $52 > 35$ 1c. $10,362 < 10,562$

2a. $5,002 > 2,113$ 2b. $713 < 731$

2c. $12,317 > 11,713$

3a. $115,000 > 105,000$ 3b. $23 < 32$;

3c. $142 = 142$

4a. $310 > 290$ 4b. $715 < 725$

4c. $1,132,700 > 1,032,700$

5a. $616 > 106$ 5b. $119,000 < 120,000$

5c. $48,112 < 48,212$

6a. $823 > 821$ 6b. $2,003,461 < 2,004,461$

6c. $7,903 < 9,309$

7a. $30 > 25$ 7b. $47,999 > 45,999$

7c. $19,900 > 19,090$

8a. $111 = 111$ 8b. $386,712 > 386,711$

8c. $615 > 614$

Lesson 2.4, page 26

1a. $3,647 < 36,647$ 1b. $4,678 < 4,768$

1c. $68,035 > 68,025$

2a. $4,102,364 < 4,201,364$ 2b. $56,703 > 56,702$

2c. $125,125 < 125,150$

3a. $90,368 < 90,369$ 3b. $5,654,308 > 5,546,309$

3c. $65,003 < 65,013$

4a. $4,567,801 > 456,780$ 4b. $7,621 > 7,261$

4c. $769,348 > 759,348$

5a. $506,708 < 506,807$ 5b. $1,365,333 = 1,365,333$

5c. $9,982 > 9,928$

6a. $224,364 < 234,364$ 6b. $32,506 > 23,605$

6c. $7,850 = 7,850$

7a. $3,204,506 < 3,204,606$ 7b. $9,851 > 9,850$

7c. $2,000,567 < 2,001,567$

8a. $430,632 < 480,362$ 8b. $49,984 = 49,984$

8c. $5,640,002 > 5,639,992$

9a. $172,302 < 173,302$ 9b. $212,304 = 212,304$

9c. $6,886 < 6,896$

Posttest, page 27

1a. $1,000,000 + 900,000 + 60,000 + 5,000 + 10 + 2$

1b. $600,000 + 90,000 + 3,000 + 100 + 40 + 5$

2a. $100,000 + 3,000 + 400 + 50 + 8$

2b. $20,000 + 3,000 + 900 + 70 + 2$

3a. $400,000 + 70,000 + 1,000 + 400 + 40$

3b. $10,000 + 8,000 + 300 + 20 + 1$

4a. $90,000 + 8,000 + 400 + 80 + 5$

4b. $300,000 + 10,000 + 3,000 + 80 + 2$

5a. five thousand twelve

5b. one hundred two

5c. one thousand one hundred forty-one

5d. ninety-nine thousand six hundred twelve

6a. two hundred eighteen

6b. twenty-one thousand eight hundred twelve

6c. seven thousand nine hundred eighty-two

6d. seven hundred sixty-two

7a. four hundred fifty-six

7b. one hundred twenty-three

7c. nine hundred thirty-four thousand seven hundred sixty-three

7d. thirty-seven thousand one hundred three

Posttest, page 28

8a. $2,400,000$ 8b. $760,000$ 8c. $90,000$

8d. $2,390,000$ 8e. $630,000$

9a. $310,000$ 9b. $8,940,000$ 9c. $430,000$

9d. $50,000$ 9e. $2,010,000$

10a. $3,000,000$ 10b. $800,000$ 10c. $3,100,000$

10d. $900,000$ 10e. $400,000$

11a. $500,000$ 11b. $7,700,000$ 11c. $200,000$

11d. $6,500,000$ 11e. $500,000$

12a. $2,000,000$ 12b. $9,000,000$ 12c. $7,000,000$

12d. $5,000,000$ 12e. $7,000,000$

13a. $2,000,000$ 13b. $7,000,000$ 13c. $9,000,000$

13d. $3,000,000$ 13e. $6,000,000$

14a. $24,124 < 24,224$ 14b. $1,975,212 < 1,985,212$

Grade 4 Answers

- 14c. $56,410 > 54,408$
15a. $509,712 < 590,172$
15b. $2,341,782 = 2,341,782$
15c. $976,152 > 967,932$
16a. $6,918 > 6,818$ 16b. $49,917 > 49,907$
16c. $3,425,556 < 3,524,565$
17a. $8,724,100 > 5,724,101$
17b. $3,002,019 < 3,002,109$ 17c. $2,418 = 2,418$

Chapter 3

Pretest, page 29

	a	b	c	d	e
1.	779	1,971	927	3,867	6,929
2.	5,720	310	3,588	1,248	1,877
3.	680	5,437	7,495	9,899	1,980
4.	4,790	3,998	6,737	1,034	6,000
5.	2,503	542	6,408	111	5,905
6.	8,122	1,901	911	6,102	3,967
7.	2,617	2,281	1,163	1,318	22,011
8.	797	5,241	320	69,216	9,393

Pretest, page 30

9. 3,994 10. 25,994 11. 1,398 12. 245
13. 449

Lesson 3.1, page 31

	a	b	c	d	e	f
1.	909	750	589	259	788	993
2.	561	408	720	780	598	1,155
3.	983	396	672	810	757	900
4.	980	431	858	1,270	712	309
5.	889	666	543	387	1,300	950
6.	1,014	457	940	584	857	263
7.	1,193	918	1,010	397	1,099	357

Lesson 3.2, page 32

	a	b	c	d	e	f
1.	911	609	1,133	231	4,796	399
2.	4,498	311	290	3,267	103	1,964
3.	1102	190	6,100	524	101	1,069
4.	7,812	281	910	756	151	1,589
5.	108	2,778	3,482	625	4,444	2,692
6.	223	3,747	5,700	1,251	2613	5,086

Lesson 3.3, page 33

	a	b	c	d	e
1.	2,897	5,028	4,210	11,042	8,712
2.	5,499	9,229	9,992	4,330	9,006
3.	6,651	4,622	3,748	3,776	4,145
4.	3,771	5,410	4,028	9,095	7,990
5.	5,115	3,791	5,908	9,595	7,760
6.	10,100	7,983	7,090	2,784	9,919

7. 14,702 3,182 8,134 4,881 6,989

Lesson 3.4, page 34

1. 5,949 2. 7,077 3. 361 4. 131 5. 920
6. 3,158

Lesson 3.5, page 35

	a	b	c	d	e
1.	19,115	69,600	33,998	11,123	32,422
2.	65,111	12,990	89,341	13,902	78,921
3.	17	55,198	9,097	8,111	33,690
4.	19,002	34,901	78,064	14,009	10,829
5.	32,899	30,993	11,186	14,219	2,101
6.	4,716	9170	15,000	7,653	7,842
7.	52,108	78,999	11,090	27,680	12,576

Lesson 3.6, page 36

	a	b	c	d	e
1.	730	910	1,068	707	2,563
2.	13,727	840	9,974	1,252	2,312
3.	3,872	18,280	12,189	16,563	1,966
4.	6,762	17,920	4,594	13,675	8,201
5.	7,199	12,820	9,053	16,661	11,930

Lesson 3.7, page 37

	a	b	c	d	e
1.	11,557	24,275	9,099	102,380	3,432
2.	29,850	12,598	22,881	10,018	16,516
3.	8,339	48,390	6,889	50,341	91,001
4.	12,065	11,062	78,186	14,807	40,305
5.	3,860	38,900	13,810	65,237	11,099
6.	17,509	8,217	51,510	4,039	30,583

Lesson 3.8, page 38

1. 8,517 2. 15,400 3. 64,449 4. 4,724
5. 40,851

Lesson 3.9, page 39

	a	b	c	d	e
1.	44,113	76,892	68,111	73,107	12,000
2.	2,727	20,038	99,002	4,559	43,663
3.	57,564	47,408	78,012	46,619	8,973
4.	658	3,476	1,730	1,783	9,041
5.	3,556	6,201	1,085	17,191	786
6.	71,359	1,9788	1,765	9,791	2,190
7.	8,421	1,680	49,106	2,096	7,324
8.	57,829	10,038	14,011	1,818	6,884

Lesson 3.9, page 40

	a	b	c	d	e
1.	7,263	2,470	8,675	15,865	3,507
2.	1,793	19,330	111,175	10,086	208
3.	3,988	42,050	38,966	101	884
4.	6,781	49,059	1,009	250	679
5.	5,163	57,806	791	20,470	2,567

Grade 4 Answers

6. 639 25,829 11,819 11,590 7,700
7. 2,075 42,601 4,731 10,389 83,546
8. 10,235 18,354 6,566 7,725 13,906

Lesson 3.10, page 41

1. 111,753 2. 2,869 3. 14,125 4. 4,730
5. 4,240 6. 6,002

Posttest, page 42

a	b	c	d	e
1. 99,013	62,882	1,094	2,600	8,222
2. 26,348	51,609	2,943	13,345	60,012
3. 991	10,050	4,232	111,867	19,991
4. 60,835	1,059	4,024	6,899	28,606
5. 57,818	24,023	659	9,009	18,909
6. 576	337	252	42,753	21,431
7. 56,092	6,228	88,293	8,051	79,874
8. 4,443	5,809	79,231	914	6,812

Posttest, page 43

9. 1,028 10. 1,470 11. 3,185 12. 658
13. 11,808

Chapter 4

Pretest, page 44

a	b	c	d	e	f
1. 56	75	3,926	255	90	144
2. 14,805	81	4,732	1,056	2,821	744
3. 24,200	1,659	2,200	9,752	2,691	392
4. 17,250	100	1,588	1,875	121	2,916
5. 41,584	1,936	19,266	462	5,694	12,832
6.	1, 2, 3, 4, 6, 12; composite				
7.	1, 11; prime				
8.	1, 2, 4, 5, 10, 20; composite				
9.	1, 2, 4, 8, 16, 32; composite				

Pretest, page 45

10. 250 11. 198 12. 8,000
13. $715 \times 3 = a$; $a = 2,145$ 14. $10 \times 5 = b$; $b = 50$

Lesson 4.1, page 46

1. 1, 2, 4, 8, 16, 32, 64; composite
2. 1, 43; prime
3. 1, 53; prime
4. 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72; composite
5. 1, 19; prime
6. 1, 2, 3, 4, 6, 8, 12, 16, 24, 48; composite
7. 1, 2, 11, 22; composite
8. 1, 2, 3, 4, 6, 9, 12, 18, 36; composite
9. 1, 89; prime
10. 1, 31; prime
11. 1, 3, 31, 93; composite
12. 1, 3, 5, 15, 25, 75; composite

Lesson 4.1, page 47

1. 1, 2, 4, 5, 8, 10, 16, 20, 40, 80; composite
2. 1, 5, 11, 55; composite
3. 1, 2, 4, 7, 14, 28; composite
4. 1, 67; prime
5. 1, 2, 4, 8, 11, 22, 44, 88; composite
6. 1, 73; prime
7. 1, 2, 3, 6, 9, 18, 27, 54; composite
8. 1, 5, 19, 95; composite
9. 1, 2, 3, 6, 9, 18; composite
10. 1, 7, 13, 91; composite
11. 1, 3, 19, 57; composite
12. 1, 13; prime
13. 1, 61; prime
14. 1, 7, 11, 77; composite
15. 1, 3, 11, 33; composite
16. 1, 23; prime

Lesson 4.2, page 48

1. $3 \times 4 = a$; $a = 12$
2. $7 \times 6 = b$; $b = 42$
3. $6 \times \$25 = c$; $c = \$150$
4. $33 \times 5 = d$; $d = 165$
5. $7 \times 9 = e$; $e = 63$
6. $4 \times 21 = f$; $f = 84$

Lesson 4.3, page 49

a	b	c	d	e	f
1. 46	71	48	66	70	48
2. 88	86	90	88	36	28
3. 99	75	66	90	40	84
4. 77	20	0	39	60	62
5. 20	82	26	80	60	55
6. 30	77	25	0	66	10
7. 0	50	93	36	80	70

Lesson 4.4, page 50

a	b	c	d	e	f
1. 292	50	108	260	92	210
2. 38	52	204	270	376	132
3. 288	384	156	136	85	110
4. 198	225	330	171	342	222
5. 165	512	415	343	450	516
6. 360	51	432	225	540	480
7. 279	308	246	288	280	158

Lesson 4.5, page 51

1. 432 2. 141 3. 368 4. 188 5. 168 6. 115

Lesson 4.6, page 52

a	b	c	d	e	f
1. 354	1,220	1,120	456	1,400	685
2. 981	474	1,410	1,278	1,740	1,161

Grade 4 Answers

3. 1,675 1,330 3,368 1,809 861 972
4. 2,025 944 1,206 2,988 4,900 796
5. 1,956 568 5,632 1,351 738 1,064
6. 4,224 2,253 1,400 1,110 1,818 5,110

12. $35 \times 23 = a$; $a = 805$
13. $15 \times 12 = b$; $b = 180$

Lesson 4.7, page 53

	a	b	c	d	e	f
1.	726	495	800	713	156	930
2.	861	640	400	651	900	140
3.	968	280	480	900	169	330
4.	770	132	810	288	880	961

Lesson 4.8, page 54

	a	b	c	d	e	f
1.	418	1,312	1,296	675	960	1,694
2.	1,512	2,496	700	2,310	957	6,300
3.	1,311	324	2,079	1,105	1,936	1,800
4.	851	3,458	1,892	221	1,496	2,090

Lesson 4.9, page 55

	a	b	c	d	e	f
1.	9,450	22,134	6,027	16,940	6,270	13,821
2.	4,480	4,508	61,916	26,016	24,160	6,750
3.	47,771	37,800	14,256	29,754	59,711	31,836
4.	9,125	21,886	14,784	9,708	44,895	38,014

Lesson 4.10, page 56

	a	b	c	d	e	f
1.	30,751	33,285	35,480	10,528	6,108	26,605
2.	18,886	31,780	22,659	5,448	30,247	13,464
3.	16,254	5,050	30,996	11,045	11,240	29,040
4.	2,887	24,936	8,412	19,044	9,364	48,690
5.	32,432	6,256	20,336	51,384	16,400	20,526
6.	33,608	14,104	47,680	26,190	12,956	5,467

Lesson 4.11, page 57

1. 96 2. 396 3. 750 4. 7,104 5. 120 6. 80

Posttest, page 58

- 1a. 288 1b. 192 1c. 678 1d. 272
1e. 1,350 1f. 666 1g. 186
2a. 484 2b. 512 2c. 217 2d. 6,300
2e. 63 2f. 4,844 2g. 720
3a. 23,919 3b. 728 3c. 66 3d. 4,347
3e. 5,400 3f. 316 3g. 4,501
4a. 1,486 4b. 4,390 4c. 2,691 4d. 5,658
4e. 17,886 4f. 1,800 4g. 22,200
5. 1, 5, 17, 85; composite
6. 1, 59; prime
7. 1, 3, 5, 15; composite
8. 1, 2, 13, 26; composite

Posttest, page 59

9. 460 10. 252 11. 14,880

Chapter 5

Pretest, page 60

	a	b	c	d	e
1.	5	7	3	9	3
2.	6	6	9	8	10
3.	9	4	11r2	5	6
4.	2	7	4	3	6
5.	9r6	11	25	87r1	300
6.	15	21	100	9r6	22r2
7.	442r4	20r1	8r6	3r1	938r3

Pretest, page 61

8. 6 9. 8 10. 4 11. 15 12. 12 13. 48, 2

Lesson 5.1, page 62

	a	b	c	d
1.	100	10	10	2
2.	10	70	10	5
3.	300	10	100	10
4.	60	10	10	50
5.	4	10	20	9

Lesson 5.2, page 63

	a	b	c	d	e	f
1.	7	4	9	6	5	7
2.	9	6	9	4	4	7
3.	9	5	6	8	4	5
4.	8	6	1	7	9	8
5.	6	6	8	5	3	3
6.	7	1	3	2	0	2

	a	b	c	d
7.	5	4	3	9

Lesson 5.3, page 64

	a	b	c	d	e	f
1.	7	9	6	8	9	7
2.	9	6	8	8	7	8
3.	8	6	1	8	0	9
4.	5	2	3	4	7	9
5.	4	5	5	6	3	4
6.	1	3	6	7	2	5

	a	b	c
7.	7	4	8

Lesson 5.4, page 65

	a	b	c	d	e	f
1.	8	5	3	8	4	6
2.	3	7	7	6	9	8
3.	7	8	2	6	4	4
4.	5	6	3	5	2	0

Grade 4 Answers

5.	l	5	6	7	9	7
	a	b	c			
6.	7	8	9			
7.	9	6	6			

Lesson 5.5, page 66

	a	b	c	d	e
1.	7	4	9	7	6
2.	8	5	9	6	9
3.	6	7	4	6	9
4.	9	4	7	8	9
5.	8	3	4	7	5
6.	8	2	9	0	4

Lesson 5.6, page 67

1. 8 **2.** 5 **3.** 9 **4.** 4 **5.** 8 **6.** 7

Lesson 5.7, page 68

	a	b	c	d	e
1.	5rl	8r2	7r3	9rl	5r5
2.	8r2	5r2	6rl	7rl	6r4
3.	3r3	8rl	3rl	9rl	8rl
4.	2r4	6rl	6rl	4rl	9r2

Lesson 5.7, page 69

	a	b	c	d	e
1.	18	15rl	11r2	24	13r2
2.	17rl	32	12r3	12	25
3.	15r3	12rl	11rl	12r5	11
4.	22	28	38rl	19r2	11r5

Lesson 5.8, page 70

	a	b	c	d	e
1.	90	81r3	41r3	43rl	75
2.	92	46rl	62	98r8	21
3.	86r6	45	90r3	73	36r2

Lesson 5.8, page 71

	a	b	c	d	e
1.	128r5	449	141r2	130rl	324
2.	158rl	183	109r8	128rl	197
3.	105r4	112rl	225rl	174	155
4.	261rl	157r3	160rl	111r3	305
5.	108	190r3	217	325	120

Lesson 5.9, page 72

	a	b	c	d	e
1.	1,306	1,720r3	2,065r3	2,121	876r5
2.	1,036r3	2,460rl	1,132r5	179r5	2,937r2
3.	1,582	1,674r3	432r5	1,794	418r2

Lesson 5.9, page 73

	a	b	c	d	e
1.	1,195r3	301r3	780rl	4,565rl	639r2
2.	3,320rl	491r3	1,103r2	538	2,121r2
3.	2,807	7,412	1,129	7,293	4,236rl

Lesson 5.10, page 74

1. 8 **2.** 38 **3.** 116, 7 **4.** 130, 3 **5.** 730

Posttest, page 75

	a	b	c	d	e
1.	6	3	1	8	10
2.	8	6	2	3	7
3.	5	8	6	7	4
4.	7	1	3	9	6
5.	48	29	11r5	10	4r3
6.	9r3	9rl	5r3	9r8	22
7.	2,039rl	183r2	127	5r2	24

Posttest, page 76

8. 8 **9.** 3 **10.** 8 **11.** 65 **12.** 68 **13.** 17

Mid-Test

Mid-Test, page 77

	a	b	c	d	e
1.	25	39	19	39	66
2.	19	74	89	59	79
3.	30	91	81	40	41
4.	43	65	94	81	33
5.	31	72	10	53	32
6.	66	84	9	55	19
7.	69	59	62	82	99
8.	49	93	80	75	65
9.	302	692	209	457	389
10.	889	479	283	462	589

Mid-Test, page 78

- 11a.** $700 + 30 + 2$
11b. $30,000 + 2,000 + 100 + 30 + 2$
11c. $4,000 + 700 + 90$

- 12a.** $1,000 + 3$
12b. $2,000,000 + 300,000 + 10,000 + 4,000 + 700 + 30 + 2$

- 12c.** $3,000 + 1$

a	b	c
13. 13,600	80,000	2,000,000
14. 4,940	400,000	4,020

- 15a.** $13,702 > 13,207$ **15b.** $3,976 < 9362$

- 15c.** $932 > 901$

- 16a.** $26,314 < 260,314$ **16b.** $978 = 978$

- 16c.** $3,721,460 > 3,710,460$

a	b	c	d	e
17. 875	783	1,088	941	779
18. 3,032	2,350	4,606	9,115	9,810

Mid-Test, page 79

a	b	c	d	e
19. 29,014	53,010	31,009	54,002	19,147

Grade 4 Answers

- 20.** 8,411 24,810 4,095 28,999 16,949
21. 30,366 1,587 39,087 13,991 8,875
22. 5,150 39,947 10,990 39,559 4,970
23. 91,710 4,464 49,930 8,378 79,967
24. 8,907 29,232 5,444 110,811 83,771

Mid-Test, Page 80

- | a | b | c | d | e |
|-------------------|----------|----------|----------|----------|
| 25. 56 | 36 | 28 | 48 | 84 |
| 26. 96 | 28 | 88 | 48 | 80 |
| 27. 224 | 141 | 168 | 360 | 153 |
| 28. 336 | 576 | 336 | 175 | 441 |
| a | b | c | d | e |
| 29. 110 | 242 | 992 | 860 | 500 |
| 30. 1,875 | 576 | 5,412 | 2,997 | 1,751 |
| 31. 18,810 | 16,000 | 9,353 | 13,294 | 46,124 |
| | | | | 7,581 |

Mid-Test, Page 81

- | a | b | c | d | e |
|------------------|----------|----------|----------|----------|
| 32. 9 | 8 | 6 | 8 | 6 |
| 33. 3 | 7 | 4 | 9 | 10 |
| 34. 100 | 321 | 103 | 121 | 108 |
| 35. 90r4 | 91r2 | 105 | 41rl | 438 |
| 36. 50r8 | 1,172r3 | 114 | 316rl | 178rl |
| 37. 100r8 | 255 | 1,620rl | 111 | 74rl |

Mid-Test, Page 82

- 38.** 36 **39.** 60 **40.** 210 **41.** 18 **42.** 84 **43.** 382

Chapter 6

Pretest, page 83

- | a | b | c | d |
|---|---|--------------------------------|-------------------------|
| 1. $\frac{12}{24}$ | $\frac{10}{15}$ | $\frac{6}{36}$ | $\frac{9}{27}$ |
| 2. $\frac{1}{5} = \frac{2}{10}$ | 3. $\frac{10}{10}$ or 1 | 4. $\frac{7}{8}$ | 5. $\frac{2}{5}$ |
| 6. $\frac{3}{12}$ or $\frac{1}{4}$ | 7. $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ | 8. .5 or $\frac{5}{10}$ | |
| 9. .44 or $\frac{44}{100}$ | 10. .1 or $\frac{1}{10}$ | | |

Pretest, page 84

- 11a.** $\frac{48}{100}$ **11b.** $10\frac{2}{6}$ or $10\frac{1}{3}$
11c. $13\frac{6}{8}$ or $13\frac{3}{4}$ **11d.** $16\frac{4}{5}$
12a. $3\frac{3}{9}$ or $3\frac{1}{3}$, **12b.** $\frac{22}{100}$
12c. $11\frac{12}{10}$ or $12\frac{2}{10}$ or $12\frac{1}{5}$ **12d.** $3\frac{3}{7}$,
13a. $\frac{32}{9}$ or $3\frac{5}{9}$ **13b.** $\frac{3}{8}$ **13c.** $\frac{8}{7}$ or $1\frac{1}{7}$ **13d.** $\frac{40}{7}$ or $5\frac{5}{7}$
14a. $\frac{15}{10}$ or $\frac{3}{2}$ or $1\frac{1}{2}$ **14b.** $\frac{14}{12}$ or $1\frac{2}{12}$ or $1\frac{1}{6}$
14c. $\frac{42}{11}$ or $3\frac{9}{11}$ **14d.** $\frac{16}{9}$ or $1\frac{7}{9}$

Lesson 6.2, page 85

	a	b	c	d
1.	$\frac{9}{12}$	$\frac{4}{16}$	$\frac{10}{15}$	$\frac{2}{4}$
2.	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{3}{15}$	$\frac{8}{40}$
3.	$\frac{10}{14}$	$\frac{12}{24}$	$\frac{8}{32}$	$\frac{6}{36}$
4.	$\frac{9}{27}$	$\frac{20}{30}$	$\frac{10}{25}$	$\frac{2}{16}$
5.	15	2	12	18
6.	4	16	24	6
7.	40	15	21	10
8.	8	20	27	9

Lesson 6.2, page 86

	a	b	c
1.	$\frac{1}{4} < \frac{3}{4}$	$\frac{1}{2} = \frac{2}{4}$	$\frac{2}{3} > \frac{1}{2}$
2.	$\frac{7}{10} > \frac{3}{5}$	$\frac{3}{8} < \frac{3}{4}$	$\frac{1}{3} < \frac{5}{8}$
3.	$\frac{1}{5} = \frac{2}{10}$	$\frac{3}{4} > \frac{1}{2}$	$\frac{6}{10} > \frac{2}{5}$

Lesson 6.3, page 87

	a	b
1.	$\frac{4}{8} > \frac{2}{10}$	$\frac{1}{5} = \frac{2}{10}$
2.	$\frac{3}{8} < \frac{10}{12}$	$\frac{3}{12} < \frac{1}{3}$
3.	$\frac{2}{8} = \frac{1}{4}$	$\frac{3}{6} = \frac{4}{8}$

Lesson 6.4, page 88

	a	b	c	d	e
1.	$\frac{11}{12}$	$\frac{3}{5}$	$\frac{5}{6}$	$\frac{3}{4}$	
2.	$\frac{4}{10}$	$\frac{5}{8}$	$\frac{2}{3}$	$\frac{4}{7}$	
3.	$\frac{4}{5}$	$\frac{9}{12}$	$\frac{9}{10}$	$\frac{5}{6}$	
4.	$\frac{5}{8}$	$\frac{7}{12}$	$\frac{2}{6}$	$\frac{3}{6}$	$\frac{2}{8}$
5.	$\frac{12}{12}$	$\frac{7}{7}$	$\frac{10}{10}$	$\frac{5}{5}$	$\frac{11}{12}$
6.	$\frac{8}{11}$	$\frac{2}{4}$	$\frac{2}{2}$	$\frac{6}{7}$	$\frac{4}{9}$

Lesson 6.5, page 89

	a	b	c	d	e
1.	$\frac{8}{12}$	$\frac{4}{10}$	$\frac{2}{4}$	$\frac{1}{7}$	$\frac{1}{5}$
2.	$\frac{2}{10}$	$\frac{1}{12}$	$\frac{2}{5}$	$\frac{3}{10}$	$\frac{4}{8}$
3.	$\frac{6}{10}$	$\frac{2}{11}$	$\frac{7}{9}$	$\frac{2}{5}$	$\frac{2}{9}$
4.	$\frac{2}{7}$	$\frac{4}{12}$	$\frac{0}{9}$	$\frac{4}{12}$	
5.	$\frac{2}{12}$	$\frac{1}{4}$	$\frac{2}{10}$	$\frac{3}{10}$	$\frac{2}{3}$
6.	$\frac{4}{8}$	$\frac{1}{7}$	$\frac{2}{12}$	$\frac{7}{10}$	

Grade 4 Answers

Lesson 6.6, page 90

1b. $\boxed{\quad} + \boxed{\quad} + \boxed{\quad} + \boxed{\quad} + \boxed{\quad} = \frac{5}{6}$

or $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{5}{6}$

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

2a. $\boxed{\quad} + \boxed{\quad} + \boxed{\quad} + \boxed{\quad} = \frac{4}{12}$

or $\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} = \frac{4}{12}$

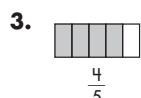
$$\frac{2}{12} + \frac{2}{12} = \frac{4}{12}$$

2b. $\boxed{\quad} + \boxed{\quad} + \boxed{\quad} = \frac{3}{8}$

or $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{3}{8}$

$$\frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

Lesson 6.7, page 91



4. $\frac{4}{8} + \frac{2}{8} = a, a = \frac{6}{8}$ or $\frac{3}{4}$

5. $\frac{2}{7} + \frac{3}{7} = b, b = \frac{5}{7}$

Lesson 6.8, page 92

a. $\frac{3}{10}$	b. $\frac{7}{10}$	c. $\frac{2}{10}$
1. 0.3 or $\frac{3}{10}$	2. 0.7 or $\frac{7}{10}$	3. 0.2 or $\frac{2}{10}$

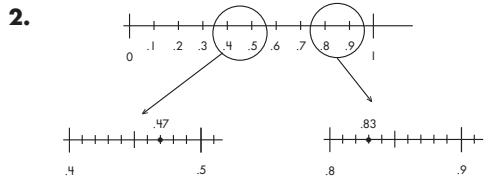
a. $\frac{1}{5}$	b. $\frac{3}{5}$	c. $\frac{2}{5}$
2. 0.2	3. 0.6	4. 0.9

a. $\frac{3}{10}$	b. $\frac{6}{10}$	c. $\frac{9}{10}$
2. 0.3	3. 0.6	4. 0.9



Lesson 6.9, page 93

a. $\frac{29}{100}$	b. $\frac{64}{100}$	c. $\frac{98}{100}$
1. 29 or $\frac{29}{100}$	2. 64 or $\frac{64}{100}$	3. 98 or $\frac{98}{100}$



Lesson 6.10, page 94

a. $\frac{19}{100}$	b. $\frac{22}{100}$	c. $\frac{45}{100}$	d. $\frac{77}{100}$
1. $\frac{100}{100}$	2. $\frac{11}{100}$	3. $\frac{48}{100}$	4. $\frac{65}{100}$
5. $\frac{52}{100}$	6. $\frac{36}{100}$	7. $\frac{83}{100}$	8. $\frac{33}{100}$

Lesson 6.11, page 95

	a	b	c	d	e
1.	9	15	$10\frac{1}{3}$	$7\frac{1}{5}$	$11\frac{10}{11}$
2.	$12\frac{1}{5}$	$9\frac{1}{4}$	$5\frac{1}{7}$	$15\frac{1}{2}$	$9\frac{4}{9}$
3.	$7\frac{7}{11}$	8	$12\frac{2}{3}$	$13\frac{3}{4}$	$8\frac{2}{7}$
4.	$10\frac{5}{6}$	$16\frac{4}{5}$	14	$8\frac{2}{3}$	$14\frac{4}{5}$

Lesson 6.12, page 96

	a	b	c	d	e
1.	$2\frac{1}{2}$	$4\frac{1}{7}$	$6\frac{1}{4}$	$4\frac{2}{3}$	$3\frac{1}{4}$
2.	$3\frac{1}{3}$	$2\frac{3}{5}$	$2\frac{1}{5}$	2	$1\frac{5}{9}$
3.	$5\frac{1}{11}$	$1\frac{4}{5}$	1	3	$1\frac{1}{7}$
4.	$1\frac{2}{5}$	$3\frac{3}{7}$	$5\frac{3}{5}$	$7\frac{1}{3}$	$3\frac{1}{9}$

Lesson 6.13, page 97

1. 4 2. $8\frac{1}{2}$ 3. $4\frac{3}{5}$ 4. $2\frac{1}{4}$ 5. $\frac{1}{3}$

Lesson 6.14, page 98

1.	$6 \times (\frac{1}{10})$ or $\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$
2.	$2 \times (\frac{1}{8})$ or $\frac{1}{8} + \frac{1}{8}$
3.	$2 \times (\frac{1}{4})$ or $\frac{1}{4} + \frac{1}{4}$
4.	$7 \times (\frac{1}{3})$ or $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$
5.	$10 \times (\frac{1}{6})$ or $\frac{1}{6} + \frac{1}{6} + \frac{1}{6}$
6.	$5(\frac{1}{12})$ or $\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$

Lesson 6.15, page 99

	a	b	c	d
1.	$\frac{3}{8}$	$3\frac{1}{3}$	$1\frac{7}{9}$	$1\frac{1}{7}$
2.	$3\frac{3}{5}$	$1\frac{1}{9}$	$\frac{6}{7}$	$5\frac{1}{4}$
3.	$3\frac{5}{9}$	4	$4\frac{4}{5}$	3
4.	$1\frac{1}{2}$	2	$7\frac{7}{8}$	$3\frac{9}{11}$
5.	$3\frac{1}{9}$	$2\frac{7}{10}$	$1\frac{1}{6}$	$5\frac{5}{7}$

Lesson 6.15, page 100

	a	b	c	d
1.	$1\frac{3}{7}$	$2\frac{2}{5}$	$5\frac{1}{4}$	$1\frac{1}{2}$
2.	$1\frac{1}{7}$	$\frac{3}{4}$	$2\frac{2}{3}$	$\frac{3}{5}$
3.	$2\frac{2}{3}$	2	$1\frac{1}{2}$	$\frac{3}{4}$
4.	$1\frac{7}{8}$	$\frac{2}{3}$	3	$3\frac{8}{9}$
5.	$1\frac{1}{6}$	$2\frac{4}{7}$	$2\frac{1}{2}$	4
6.	$\frac{4}{5}$	$3\frac{1}{3}$	$1\frac{5}{7}$	$1\frac{1}{5}$

Grade 4 Answers

Lesson 6.16, page 101

1. $1\frac{1}{3}$ 2. $2\frac{1}{12}$ 3. $\frac{8}{7}$ 4. 2 5. $2\frac{1}{4}$
6. $5\frac{1}{7}$ 7. $6\frac{1}{4}$

Posttest, page 102

- | a | b | c | d |
|--|-----------------------------|---------------------------------|---------------------------------|
| $\frac{15}{25}$ | $\frac{6}{18}$ | $\frac{9}{18}$ | $\frac{10}{40}$ |
| $\frac{1}{5} = \frac{2}{10}$ | $\frac{3}{4} > \frac{1}{2}$ | $\frac{7}{10} > \frac{3}{5}$ | |
| $\frac{2}{4}$ or $\frac{1}{2}$ | $\frac{7}{9}$ | $\frac{8}{12}$ or $\frac{2}{3}$ | $\frac{2}{10}$ or $\frac{1}{5}$ |
| 4. $\boxed{\quad} + \boxed{\quad} + \boxed{\quad}$
$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{3}{5}$
OR
$\boxed{\quad} + \boxed{\quad}$
$\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$ | | | |
| 5. | .08 | | |
| 6. | .4 | | |

Posttest, page 103

- | a | b | c | d |
|------------------|-----------------------------------|-----------------|-----------------------------------|
| $\frac{65}{100}$ | $4\frac{1}{7}$ | $7\frac{7}{11}$ | $3\frac{1}{9}$ |
| | | | |
| $\frac{33}{100}$ | $3\frac{3}{9}$ or $3\frac{1}{3}$ | $1\frac{2}{5}$ | $8\frac{7}{7}$ or 9 |
| | | | |
| $7\frac{1}{9}$ | $2\frac{6}{12}$ or $2\frac{1}{2}$ | $1\frac{1}{8}$ | $2\frac{6}{11}$ |
| 10. | $\frac{3}{4}$ | $4\frac{1}{2}$ | $1\frac{1}{5}$ |
| | | | $2\frac{8}{10}$ or $2\frac{4}{5}$ |

Chapter 7

Pretest, page 104

- | a | b |
|---|--------------------|
| 1. 1 yd. | 2 gal. |
| 2. 8 oz. | 1760 yd. |
| 3. 24 in. | 5 pt. |
| 4. 1 yd. | 4 qt. |
| 5. 20 c | 2 qt. |
| 6. 300 sq. yd.; 80 yd. | 72 sq. in.; 36 in. |
| 7. 43° | |
| 8. 125° | |
| 9. 79° (Accept answers within 3 degrees above or below actual measurements.) | |

Pretest, page 105

10. 12 11. 6 ft. 12. 1,000 lb. 13. 25 yd.
14. 80 sq. ft.

Pretest, page 106

- | a | b |
|---------------------------|---|
| 15. 5,000 m | 60 L |
| 16. 600 cm | 32,000 g |
| 17. 720 mm | 19,000 mL |
| 18. 1,000 mg | 1 m |
| 19. 25,000 g | 650 mm |
| 20. 17,000 mL | 52 m |
| 21. 7 g | 25,000 m |
| 22. 20 cm | 9 L |
| 23. 1 $\frac{3}{4}$ miles | 24. 44 $\frac{1}{2}$ miles |
| 25. 72° | 26. 17° 27. 27° 29. 9° |

Pretest, page 107

28. 20,000 29. 4,000 30. 50 31. 39,000

Lesson 7.1, page 108

- | | | | |
|-----|--------|-------|--------|
| 1. | 15 | 96 | 216 |
| 2. | 4 | 5,280 | 864 |
| 3. | 1,000 | 2 | 10,560 |
| 4. | 1 | 936 | 4 |
| 5. | 10 | 120 | 2,160 |
| 6. | 12,320 | 200 | 108 |
| 7. | 52,800 | 50 | 72 |
| 8. | 11 | 1,800 | 3 |
| 9. | 24 | 1 | 100 |
| 10. | 14,080 | 16 | 10 |

Lesson 7.2, page 109

1. 36 2. 5 3. 21 4. 9 5. 102,080
6. 281

Lesson 7.3, page 110

- | a | b | c |
|------------|---------|---------|
| 1. 8 qt. | 2 qt. | 6 pt. |
| 2. 6 gal. | 2 c. | 20 pt. |
| 3. 7 qt. | 7 gal. | 28 c. |
| 4. 24 pt. | 4 c. | 7 pt. |
| 5. 40 qt. | 60 c. | 9 pt. |
| 6. 48 qt. | 11 qt. | 8 c. |
| 7. 15 qt. | 160 oz. | 10 gal. |
| 8. 9 pt. | 88 c. | 160 pt. |
| 9. 300 pt. | 100 pt. | 320 oz. |
| 10. 11 c. | 4 gal. | 100 pt. |

Lesson 7.4, page 111

- | a | b | c |
|---------------------|-------------------|---------------|
| 1. 2 lb. | 3 T. | 8,000 lb. |
| 2. 640 oz. | 4 lb. | 12 T. |
| 3. $\frac{1}{2}$ T. | $\frac{1}{2}$ lb. | 9 T. |
| 4. 128 oz. | 192 oz. | $\frac{1}{2}$ |
| 5. 10,000 | | |
| 6. 2 | | |
| 7. 96,000 | | |
| 8. 128,000 | | |

Grade 4 Answers

2. 1 gal. 9 c. 45 ft.
 3. 3 mi. 34 c. 5 lb.
 4. 44 ft. 45 yd.
 5. 390 sq. ft. 225 sq. in.
 6. 7° 48° 96°

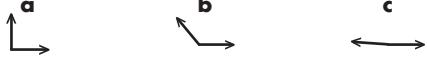
Posttest, page 126

7. $3\frac{1}{2}$ gal. 8. 200 c. 9. 8 lb. 10. 21 in.
 11. 20 ft.

Posttest, page 127

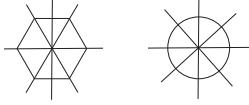
a	b
12. 60 cm	20,500 mm
13. 130 mm	400 cm
14. 37,000 m	15,000 mL
15. 44,000 mg	9,000 g
16. 9,500 cm	2,200 mm
17. 5 km	7,600 cm
18. 5,600 cm	232,000 m
19. 8,650 mm	45,000 mL
20. 267,000 mg	26,000 g
21. 2,000 mL	150 mm
22. 22,000 mm	67,000 m
23. 3 m	3 km
24. $\frac{4}{8}$	
25. $\frac{6}{8}$ in.	

Posttest, page 128

26. 
 27. 70° 45°.
 28. 40° 20°.
 29. 14,000 30. 137,000

Chapter 8

Pretest, page 129

- a b
 1. $\angle LMN$ or $\angle NML$ $\angle SRQ$ or $\angle QRS$
 2. 
 a b c d
 3. 
 4. rectangle
 5. right isosceles triangle (accept right, isosceles, or right isosceles)

Lesson 8.1, page 130

1. Rays: \overrightarrow{QP} ; \overrightarrow{QR}
 Vertex: Q
 Angle: $\angle PQR$ or $\angle RPQ$
2. 
3. $\angle 123$
- 4a. Answers will vary but may look like:
- 4b. Answers will vary but may look like:
- b
 Rays: \overrightarrow{ED} ; \overrightarrow{EF}
 Vertex: E
 Angle: $\angle DEF$ or $\angle FED$
- $\angle RTS$ or $\angle RST$ or $\angle TRS$
- 


Lesson 8.2, page 131

1. intersecting 2. parallel 3. perpendicular
 4.  5.  6. 
 7. parallel: AB and DC, AC and BD;
 perpendicular: AB and AC, AB and BD, CD and DB, CD and CA

Lesson 8.3, page 132

- | a | b | c | d |
|---|--|---|---|
| 1. yes | yes | yes | no |
| 2. yes | no | no | yes |
| 3. symmetrical | symmetrical | symmetrical | symmetrical |
|  |  |  |  |
| 4. symmetrical | symmetrical | not symmetrical | symmetrical |
|  |  | |  |

Lesson 8.4, page 133

- | a | b | c |
|--------------|---------------|---------|
| 1. rectangle | trapezoid | rhombus |
| 2. trapezoid | parallelogram | kite |

Lesson 8.5, page 134

- | a | b |
|------------------------|----------------------|
| 1. right | scalene |
| 2. obtuse or isosceles | equilateral or acute |

Posttest, page 135

- a b c d
 1. 
 2. parallel perpendicular perpendicular parallel
 3. 
 4. trapezoid
 5. right

Grade 4 Answers

Chapter 9

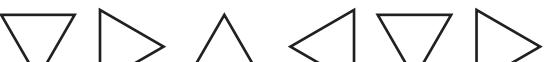
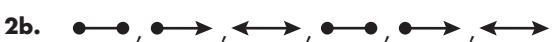
Pretest, page 136

- | a | b |
|--|---------------|
| 1. 3, 5, 2 | 30, 10, 40 |
| 2. 50, 25, 10 | 5, 1, 3 |
| 3. 25, 30, 35 | 504, 502, 500 |
| 4. 64, 128, 256 | 132, 177 |
| 5a.  | |
| 5b.  | |
| 6a.  | |
| 6b.  | |

Lesson 9.1, page 137

- | a | b |
|-------------|---------------|
| 1. 41, 50 | 39, 72 |
| 2. 11 | 388 |
| 3. 25, 47 | 138, 128, 116 |
| 4. 808 | 308, 418 |
| 5. 400, 310 | 873, 853 |
| 6. 120 | 116 |
| 7. 50, 55 | 12, 26 |

Lesson 9.2, page 138

- | | |
|--|--|
| 1a.  | |
| 1b.  | |
| 2a.  | |
| 2b.  | |
| 3a.  | |
| 3b.  | |
| 4a.  | |
| 4b.  | |
| 5a.  | |

- 5b.** 

Posttest, page 139

- | a | b |
|---|---------------|
| 1. 24, 23 | 256, 259 |
| 2. 33, 22 | 488, 441, 416 |
| 3. 82, 104 | 21, 33 |
| 5a.  | |
| 5b.  | |
| 5c.  | |

Final Test

Final test, page 140

- | a | b | c | d | e |
|-----------|----------|----------|----------|----------|
| 1. 36 | 1,964 | 790 | 285 | 1,054 |
| 2. 4,330 | 980 | 12,750 | 1,055 | 3,659 |
| 3. 31,168 | 11,122 | 27,760 | 21,688 | 67,123 |
| 4. 91 | 79 | 48 | 39 | 53 |
| 5. 527 | 5,269 | 1,532 | 2,136 | 455 |
| 6. 429 | 1,281 | 754 | 2,007 | 818 |

Final test, page 141

- | a | b | c | d | e |
|-------------|----------|----------|----------|----------|
| 7. 702 | 448 | 873 | 384 | 225 |
| 8. 9,604 | 1,170 | 1,728 | 4,158 | 2,241 |
| 9. 4,212 | 3,112 | 1,720 | 494 | 4,072 |
| 10. 14,070 | 4,006 | 31,776 | 23,724 | 12,250 |
| 11. 15 | 8 | 10 | 18r4 | 17 |
| 12. 82rl | 291 | 125 | 197r2 | 100 |
| 13. 371rl | 2,641 | 938r3 | 2,409rl | 503 |
| 14. 1,638r4 | 625 | 1,400r4 | 730rl | 1,230 |

Final test, page 142

- | | | |
|--|-----------|----------|
| 15a. $2,000 + 300 + 30 + 7$ | | |
| 15b. $300 + 90 + 7$ | | |
| 16a. $50,000 + 5,000 + 600 + 8$ | | |
| 16b. $60,000 + 9,000 + 700 + 30 + 5$ | | |
| | a | b |
| 17. 103,500 | 2,000,000 | |
| 18. 23,000 | 580 | |
| 19. $325 > 225$ $12,700 < 12,703$ $164,000 > 146,000$ | | |
| 20. $6/6$ or 1 | $10/12$ | $1/2/8$ |
| 21. 1 | 4 | 25 |
| 22. $3/8 < 10/12$ $3/12 < 1/3$ $3/6 = 4/8$ | | |

Grade 4 Answers

Final test, page 143

a b c d

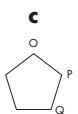
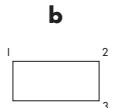
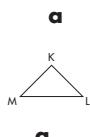
23. .8 .07 .3 .6
24. 1 yd. 70 mm 10,000 lb.
25. 6 pt. 72,000 g 44 yd.
26. 20,000 mm 14,000 m 22,000 mL
27. 11 ft. 40 in. 44 m
28. 150 sq. ft. 176 sq. cm. 300 sq. in. 2,050 sq. mm.
29. Area: 200; Perimeter: 60

Final test, page 144

30a. $\angle H I J$ or $\angle J I H = 47$ degrees

30b. $\angle L M N$ or $\angle N M L = 128$ degrees

31. Answers will vary but could include the following:



32. intersecting perpendicular parallel
33. 54 97, 112
34. 1,095 0, 50, 125

Final test, page 145

a b c d

35.

36. 8 $2\frac{2}{5}$ $2\frac{1}{2}$ $8\frac{2}{7}$
37. 2 $1\frac{1}{6}$ $5\frac{1}{4}$ $1\frac{1}{7}$
38. $1,760 \times 10 = 17,600$
39. $28 \times 3 = 84$

Stop the summer slide. Start Summer Bridge Activities®.

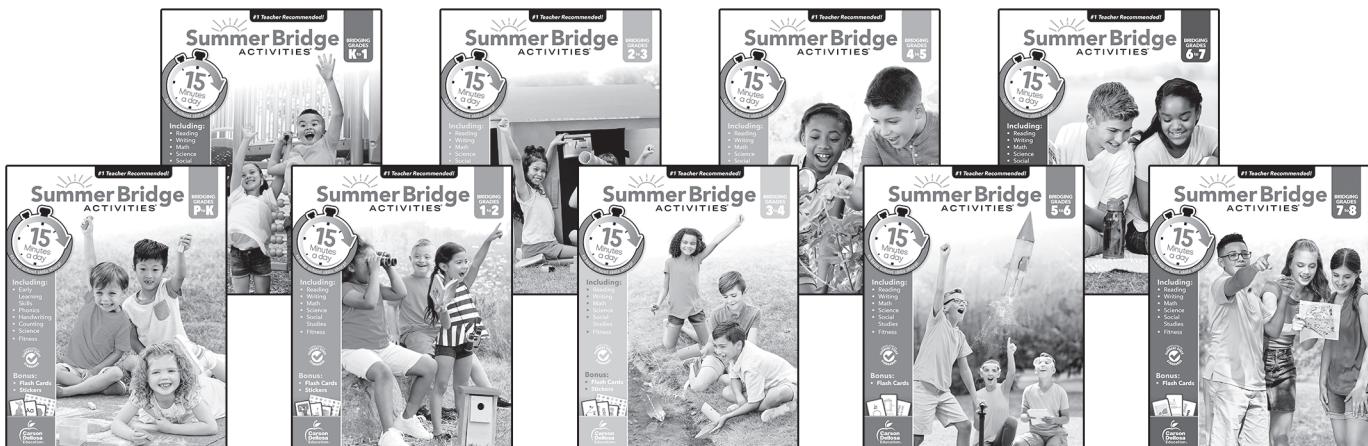
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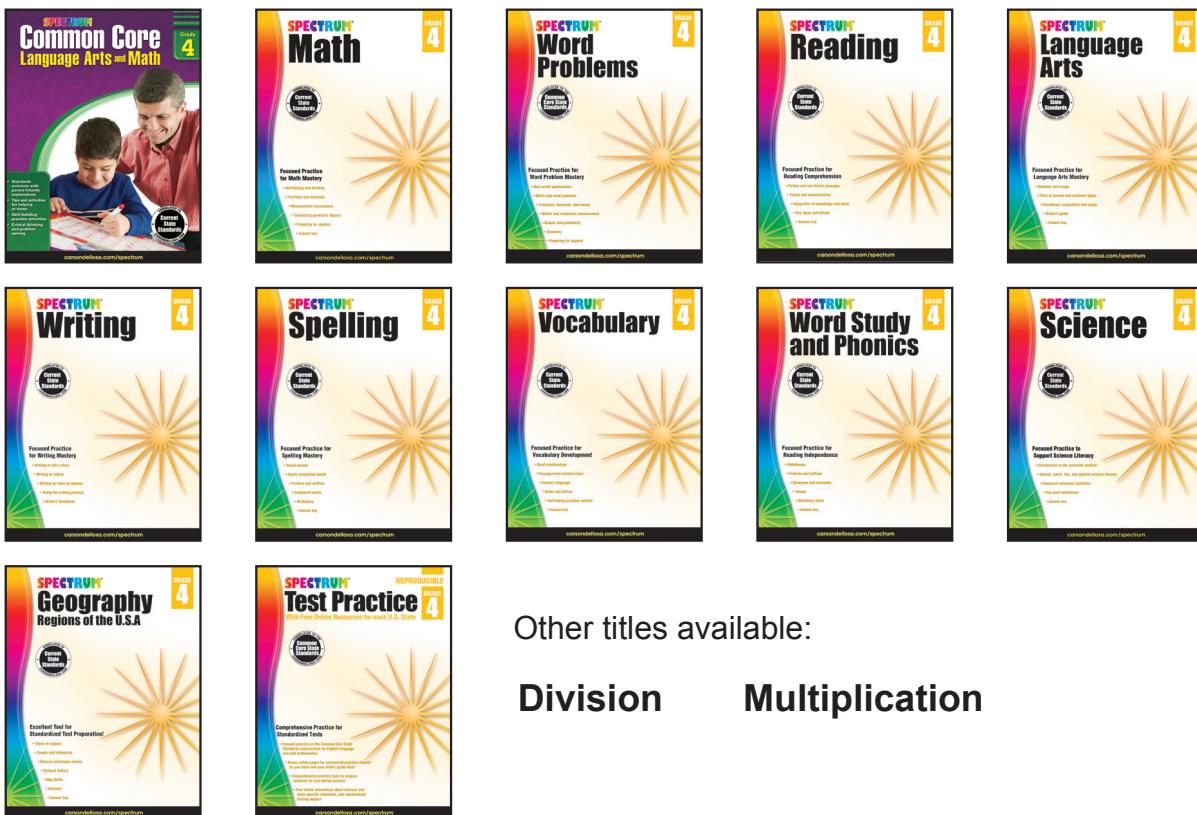
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