4th & 5th Grade Math with Math Dad and Science Mom

Place Value and Whole Numbers

Objectives: 4.NBT.A.1, 4.NBT.A.2

Place Value, Saying a number out loud. Multiplying and dividing by 10. Decompose it into parts.

Warm-up Problem: Use the numbers below to make the number **12** by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.

4, 4, 8, 6

1. How do we say the number 5,288,917,843,335,881?

   5 quadrillion, 288 trillion, 917 billion, 843 million, 335 thousand, 881

2. How do we say the number 83,243,765,432?

   83 billion, 243 million, 765 thousand, 432.

3. How do we say the number 626,490,000,156,712,154?

   626 quadrillion, 490 trillion, 156 million, 712 thousand, 154

4. Decompose the number 3,576 into a sum of parts.

   3,576 = 3000 + 500 + 70 + 6.

5. Decompose the number 104,329 into a sum of parts.

   104,329 = 100,000 + 4,000 + 300 + 20 + 9.

6. Multiply the number 457 by 10.

   457 × 10 = 4,570.

7. Divide the number 2,440 by 10.

   2,440 ÷ 10 = 244

Recap Problems:

1. How do we say the number 62,305,956,411,042,333?

   62 quadrillion, 305 trillion, 956 billion, 411 million, 42 thousand, 333.

2. Decompose the number 36,871 into a sum of parts.

   36,871 = 30,000 + 6000 + 800 + 70 + 1.

3. Multiply the number 5,892 by 10.

   5,892 × 10 = 58,920.

4. Divide the number 657,360 by 10.

   657,360 ÷ 10 = 65,736.

1. How do we say the number 56,702,055,128?

   56 billion, 702 million, 55 thousand, 128.

2. How do we say the number 909,611,142,890,304?

   909 trillion, 611 billion, 142 million, 890 thousand, 304.

3. How do we say the number 78,800,000,000,361,000?

   78 quadrillion, 800 trillion, 361 thousand.

4. Decompose the number 3,732 into a sum of parts.

   3,732 = 3,000 + 700 + 30 + 2.

5. Decompose the number 3,141,592 into a sum of parts.

   3,141,592 = 3,000,000 + 100,000 + 40,000 + 1000 + 500 + 90 + 2.

6. Decompose the number 6,391,045 into a sum of parts.

   6,391,045 = 6,000,000 + 300,000 + 90,000 + 1,000 + 40 + 5.

7. Which digit of 845,219 is in the 10-thousands place?

   There are 4 ten-thousands

8. Which digit of 83,390 is in the hundreds place?

   There are 3 hundreds

9. Which digit of 468 is in the tens place?

   There are 6 tens.

Challenge Problem: How do we say the number 12,345,678,909,099,876,543,210

12 sextillion, 345 quintillion, 678 quadrillion, 909 trillion, 99 billion, 876 million, 543 thousand, 210.

Rounding and Comparing Whole Numbers

Objectives: 4.NBT.A.2, 4.NBT.A.3

Comparing whole numbers and rounding whole numbers.

Warm-up Problem: Use the numbers below to make the number **10** by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.

3, 5, 2, 2

1. Round each number below to the nearest 10, 100, 1,000, and 100,000.

Round to the nearest	10	100	1,000	100,000
77	80	100	0	0
123	120	100	0	0
30,219	30,220	30,200	30,000	0
4,444	4,440	4,400	4,000	0
524,288	524,290	524,300	524,000	500,000
12,345,678	12,345,680	12,345,700	12,346,000	12,300,000

2. Compare each pair of numbers below by supplying the correct sign (<, >, or =).

344 __<__ 433
12,388 __>__ 12,299
3,213 __<__ 6,512
812,773 __>__ 812,601
524,288,378 __>__ 524,239,217
12,345,678 __>__ 9,266,404

3. Round to the nearest 10: 34,468 ≈ 34,470
4. Round to the nearest 10,000: 678,325 ≈ 680,000
5. Round to the nearest 10,000: 45,613,043 ≈ 45,610,000
6. Round to the nearest 100: 57,692 ≈ 57,700
7. Round to the nearest 1,000,000: 484,352,221 ≈ 484,000,000
8. Compare each pair of numbers below by supplying the correct sign (<, >, or =).

64 __>__ 46
1,338 __=__ 1,338
7,658 __>__ 6,442
810,453 __<__ 810,621
5,324,378 __>__ 5,315,217
127,888,345,678 __<__ 127,889,266,404

1. Round each number below to the nearest 10, 100, 10,000, and 1,000,000.

Round to the nearest	10	100	10,000	1,000,000
655	660	700	0	0
19,047	19,050	19,000	20,000	0
666,392	666,390	666,400	670,000	1,000,000
8,777,777	8,777,780	8,777,800	8,780,000	9,000,000
909,445,534	909,445,530	909,445,500	909,450,000	909,000,000
87,878,787	87,878,790	87,878,800	87,880,000	88,000,000

2. Compare each pair of numbers below by supplying the correct sign (<, >, or =).

545 $\underline{<}$ 611

32,355 $\underline{>}$ 32,349

183,213 $\underline{<}$ 187,902

43,773 $\underline{=}$ 43,773

668,378,321 $\underline{>}$ 668,374,689

839,938 $\underline{<}$ 389,892,121

16,121,456 $\underline{<}$ 16,121,546

34,678,318 $\underline{<}$ 43,890,405

3. Round to the nearest 100: 35,642 $\approx$ 35,600

4. Round to the nearest 10,000: 127,313 $\approx$ 130,000

5. Round to the nearest 1,000: 57,612,021 $\approx$ 57,612,000

6. Round to the nearest 100: 89,512 $\approx$ 89,500

7. Round to the nearest 1,000,000: 834,705,252 $\approx$ 835,000,000

Challenge Problem: What am I? 544

- I am a 3 digit number.
- When rounding to the nearest 10, I round to 540.
- If you add 6 to me and then round to the nearest 100, you get 600.

Addition Games

Objectives: Have fun while playing games with numbers

10-complements, place value, addition and subtraction of whole numbers

Warm-up Problem: Use the numbers below to make the number **7** by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.

2, 3, 6, 8

3 Math Games: The three games below are designed to give you practice creating and comparing numbers while doing arithmetic. Give them a try and feel free to try invent your own variations.

Place Value Draw! 2-6 players, numbered cards 1-9.

Choose the number of digits the final number will have. Players alternate turns drawing cards and then declaring the place value for the card and then placing the card in the available slot. Once a card has been placed, it can't be moved. The player with the largest number when the slots are filled is the winner.

The sample game below was played with five cards. The player on the left was the winner.

$\boxed{8}\ \boxed{6}\ \boxed{5}\ \boxed{2}\ \boxed{4} > \boxed{5}\ \boxed{7}\ \boxed{6}\ \boxed{2}\ \boxed{2}$

Sum-to-10 Solitaire! 1 player or team, numbered cards 1-9.

Deal the cards face-up. Then remove cards in groups that sum to 10 with the goal of removing all the cards from the table.

Variation 1: Sum to a different target number such as 12.

Variation 2: Layer the cards in a pyramid or grid where only the cards on top are available to be taken.

Target 100: 2-6 players, numbered cards 1-9.

Choose a target number (usually 100). Each player draws four cards and uses them to create two 2-digit numbers. The player whose numbers sum the closest to 100 is the winner.

Suggested scoring: Play multiple rounds, where each player starts with 100 points but then loses points each round equal to how far the sum of their numbers is from 100.

Dungeon Maze +3,-2

In this dungeon maze, you have to navigate a grid of numbered cells following a set of rules.

- No diagonal moves are allowed.
- Your key can only open a door to a room that is numbered 3 more than your current room or 2 less than your current room.
- The doors lock behind you, so you can't travel to any room that isn't numbered 3 more or 2 less than your current room number

Sample Dungeon Maze Path

In the maze to the right, you can travel from the upper right corner to the bottom left corner using the path that is displayed.

Note that there is no way to travel from the bottom left to the top right.

6	10	12
7	8	6
10	12	9

Objective: Solve the dungeon maze by planning out a loop that visits all four corners and ends where it starts. If you don't plan out your path now, you might get to a cell that you can't get out of.

9	11	8	6	4	2	5	3	6	9
7	5	5	13	10	12	6	8	8	7
5	8	7	11	11	9	3	6	4	5
3	1	4	9	8	7	5	0	2	3
6	9	6	7	10	7	2	4	6	6
15	12	8	10	5	4	5	7	8	4
17	14	11	8	4	1	3	11	5	2
15	13	6	5	2	3	7	9	6	3
14	11	8	9	7	5	8	6	4	2
12	10	8	6	5	2	4	6	3	0

Adding and Subtracting Whole Numbers

Objectives: 4.NBT.B.4

Adding and subtracting whole numbers. The usual algorithms.

> **Warm-up Problem:** Use the numbers below to make the number 4 by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.
>
> **4, 6, 7, 2**

1.
$$\begin{array}{r} 418 \\ +\ 225 \\ \hline 643 \end{array}$$

2.
$$\begin{array}{r} 46{,}813 \\ +\ 95{,}493 \\ \hline 142{,}306 \end{array}$$

3.
$$\begin{array}{r} 999{,}999 \\ +\ \ 51{,}678 \\ \hline 1{,}051{,}677 \end{array}$$

4.
$$\begin{array}{r} 86 \\ -\ 48 \\ \hline 38 \end{array}$$

5.
$$\begin{array}{r} 6{,}444 \\ -\ 5{,}555 \\ \hline 889 \end{array}$$

6.
$$\begin{array}{r} 942{,}393 \\ -\ \ 51{,}678 \\ \hline 890{,}715 \end{array}$$

7.
$$\begin{array}{r} 62{,}816 \\ -\ 26{,}444 \\ \hline 36{,}372 \end{array}$$

8.
$$\begin{array}{r} 62{,}816 \\ +\ 26{,}444 \\ \hline 89{,}260 \end{array}$$

1.

```
  8 14 8 13
    9,493
  - 1,568
  -------
    7,925
```

5.

```
 8 9 9 1 8 9 13
    900,903
  - 132,987
  ---------
    767,916
```

2.

```
   1 1
    97,903
  + 13,745
  --------
   111,648
```

6.

```
   1     1
    981,440
  + 363,464
  ---------
   1344,904
```

3.

```
           8 13
    869,493
  -  22,157
  ---------
    847,336
```

7.

```
    1   1
     74,643,122
  +  36,091,464
  -------------
    110,734,586
```

4.

```
     1   1 1
    869,493
  +  22,157
  ---------
    891,650
```

8.

```
   6 14 5 14 2 10 11 12
     74,643,122
  -  36,091,464
  -------------
     38,551,658
```

Challenge Problem: Use the digits, 3, 3, 3, 3, 4, 4, 4, 4 to make two 4-digit numbers whose difference is 990. (When you subtract the smaller from the larger, you get 990.)

```
    4334
  - 3344
  ------
     990
```

Factors and Multiples

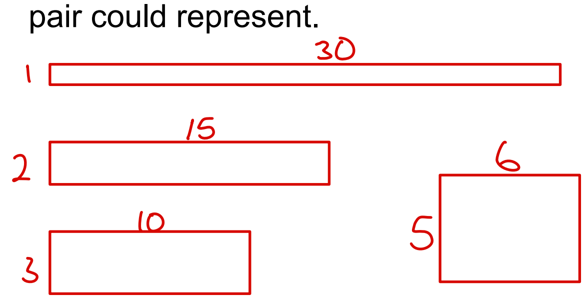
Objectives: 4.OA.B.4

Factor pairs and multiples, prime numbers

Warm-up Problem: Use the numbers below to make the number 3 by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.

5, 1, 2, 2

1. What are the multiples of 4?
   0, 4, 8, 12, 16, 20, 24, ...
2. What are the multiples of 3?
   0, 3, 6, 9, 12, 15, 18, 21, 24, ...
3. Which numbers are multiples of both 3 and 4?
   The multiples of 12.
   0, 12, 24, 36, 48, ...
4. Find all factor pairs for the number 30. Draw a picture of a region each factor pair could represent.



5. **Characteristics of Multiples.** Describe how you can determine whether numbers are multiples of each number.

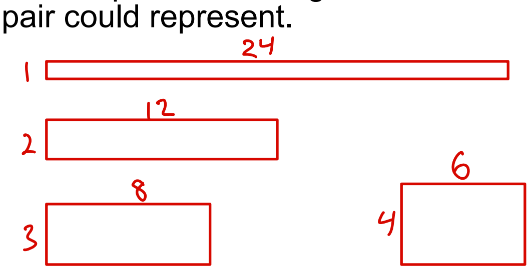
- Multiples of 2 end in 0, 2, 4, 6, or 8.
- Multiples of 3 have digits that sum to a multiple of 3.
- Multiples of 5 end in 0 or 5.
- Multiples of 6 are multiples of 2 and 3.
- Multiples of 9 have digits that sum to a multiple of 9.
- Multiples of 10 end in 0.

6. Determine whether each number is prime.

- 132 is a multiple of 2, so no.
- 5,001 is a multiple of 3, so no.
- 91 = 7 × 13, so no.

7. The 5-digit number 6173a is a multiple of 9. What is a?
   The digits sum to a multiple of 9.
   $6+1+7+3+a = 18$,
   so $a = 1$.

8. Find all factor pairs for the number 24. Draw a picture of a region each factor pair could represent.



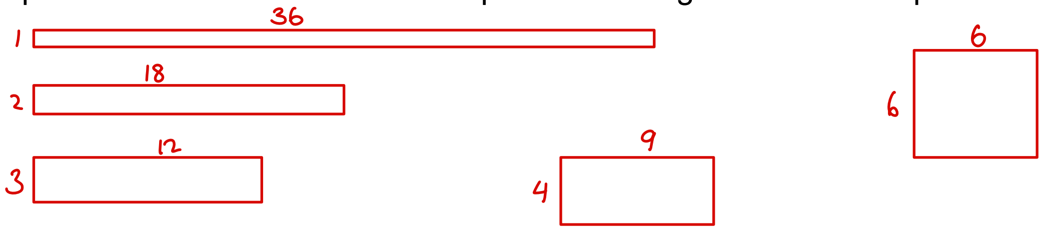
8. Is 61 prime? Yes!

9. Is 123,454,321 a multiple of 9?
   No, the digits sum to 25, which is not a multiple of 9.

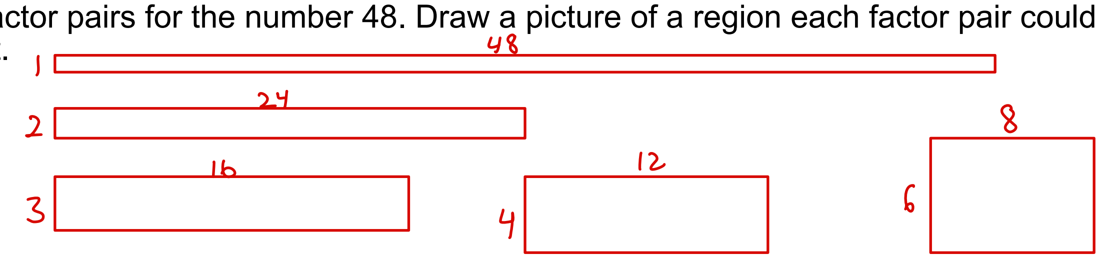
1. Find all prime numbers up to 100 by crossing off each number that isn't prime.

~~1~~	2	3	~~4~~	5	~~6~~	7	~~8~~	~~9~~	~~10~~
11	~~12~~	13	~~14~~	~~15~~	~~16~~	17	~~18~~	19	~~20~~
~~21~~	~~22~~	23	~~24~~	~~25~~	~~26~~	~~27~~	~~28~~	29	~~30~~
31	~~32~~	~~33~~	~~34~~	~~35~~	~~36~~	37	~~38~~	~~39~~	~~40~~
41	~~42~~	43	~~44~~	~~45~~	~~46~~	47	~~48~~	~~49~~	~~50~~
~~51~~	~~52~~	53	~~54~~	~~55~~	~~56~~	~~57~~	~~58~~	59	~~60~~
61	~~62~~	~~63~~	~~64~~	~~65~~	~~66~~	67	~~68~~	~~69~~	~~70~~
71	~~72~~	73	~~74~~	~~75~~	~~76~~	~~77~~	~~78~~	79	~~80~~
~~81~~	~~82~~	83	~~84~~	~~85~~	~~86~~	~~87~~	~~88~~	89	~~90~~
~~91~~	~~92~~	~~93~~	~~94~~	~~95~~	~~96~~	97	~~98~~	~~99~~	~~100~~

2. Find all factor pairs for the number 36. Draw a picture of a region each factor pair could represent.



3. Find all factor pairs for the number 48. Draw a picture of a region each factor pair could represent.



4. Determine whether each number is prime.

- 111 $= 3 \times 37$, so no.
- 44,326 is even, so no.
- 567 is a multiple of 3, so no.
- 12,345 is a multiple of 5, so no.
- 243 is a multiple of 3, so no.

Challenge Problem: The 6-digit number 4b6,26a is a multiple of 45. What are the possible values of the letters a and b? A multiple of 45 is a multiple of 5 and 9. Thus the digits sum to a multiple of 9, and $a=0$ or $a=5$. Sum the digits: $4+b+6+2+6+a = 18+b+a$. If $a=5$, then $b=4$. If $a=0$, then $b=0$ or $b=9$. No other choice of digits sum to a multiple of 9. The possible numbers are:

406,260 496,260 446,265

Multi-digit Multiplication

Objectives: 4.NBT.B.5

Multiplying multi-digit numbers. The usual algorithm.

> **Warm-up Problem:** Use the numbers below to make the number 6 by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.
>
> **3, 7, 2, 4**

1.

```
  2 33
 9,345
×    7
------
65,415
```

2.

```
   2
  67
× 33
----
 201
2010
----
2211
```

3.

```
  ~~5~~2 ~~6~~2
    2,571
×     449
---------
    23139
   102840
  1028400
---------
1,154,379
```

4.

```
   ~~3~~1 ~~4~~1
    3,045
×     382
---------
     6090
   243600
   913500
---------
1,163,190
```

1.

```
   292
×    8
------
 2,336
```

5.

```
    45
×  507
------
   315
 22500
------
22,815
```

2.

```
 5,215
×    9
------
46,935
```

6.

```
   465
×   93
------
  1395
 41850
------
43,245
```

3.

```
   45
×  47
-----
  315
 1800
-----
2,115
```

7.

```
     80,936
×     7,220
-----------
    1618720
   16187200
  566552000
-----------
584,357,920
```

4.

```
  9,004
×    38
-------
  72032
 270120
-------
342,152
```

8.

```
    1,234
×   5,678
---------
     9872
    86380
   740400
  6170000
---------
7,006,652
```

Challenge Problem: Calculate how many days old you are. Multiply your age by 365. Add the number of days since your birthday. Also add in an extra day for each leap day (Feb 29) that you have lived through. (Can you also figure out how many minutes old you are?)

Multiplication Problems

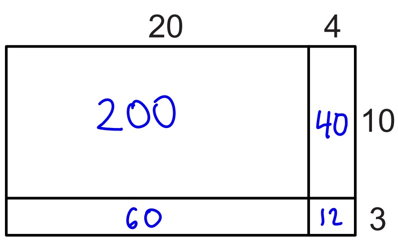
Objectives: 4.MD.A.3, 4.OA.A.3

Area models, lattice multiplication, two-step word problems

Warm-up Problem: Use the numbers below to make the number 8 by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.

6, 3, 1, 3

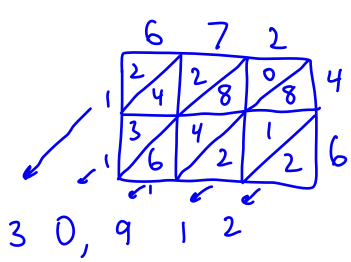
1. Show how the multiplication algorithm corresponds to finding area of a rectangle. 24×13



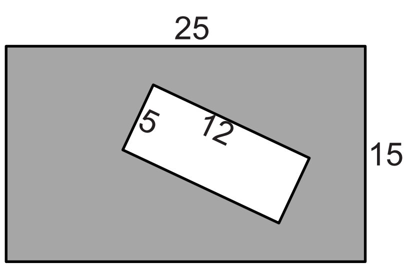
$$\begin{array}{r} 24 \\ \times 13 \\ \hline 72 \\ +240 \\ \hline 312 \end{array}$$

$$\begin{array}{r} 200 \\ +\ 40 \\ +\ 60 \\ +\ 12 \\ \hline 312 \end{array}$$

2. Use the lattice method to multiply 672×46.



3. Find the area of the shaded region.



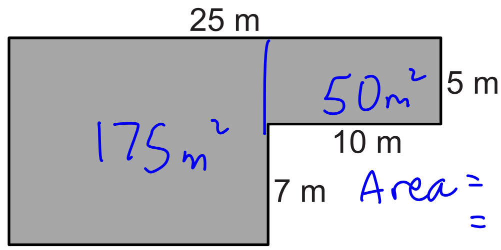
Area = $\square - \square$

$= 25 \times 15 - 5 \times 12$

$= 375 - 60$

$= 315.$

4. It costs \$3 per m² to plant sod. How much will it cost to plant sod on the lawn below?

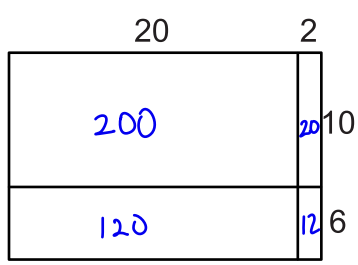


Area $= 175\,m^2 + 50\,m^2$

$= 225\,m^2.$

Cost $= (225\,m^2) \times (\$3/m^2) = \$775.$

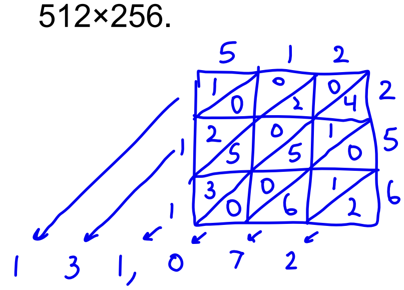
5. Show how the multiplication algorithm corresponds to finding area of a rectangle. 16×22



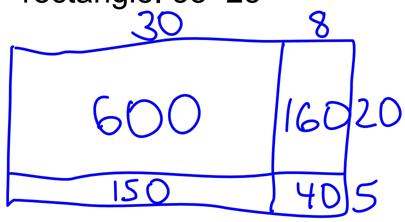
$$\begin{array}{r} 16 \\ \times 22 \\ \hline 32 \\ +320 \\ \hline 352 \end{array}$$

$$\begin{array}{r} 200 \\ +\ 20 \\ +120 \\ +\ 12 \\ \hline 352 \end{array}$$

6. Use the lattice method to multiply 512×256.



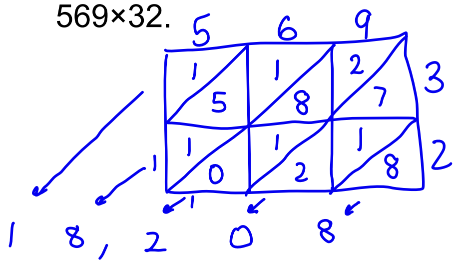
1. Show how the multiplication algorithm corresponds to finding area of a rectangle. 38×25



$$\begin{array}{r} 38 \\ \times 25 \\ \hline 190 \\ +760 \\ \hline 950 \end{array}$$

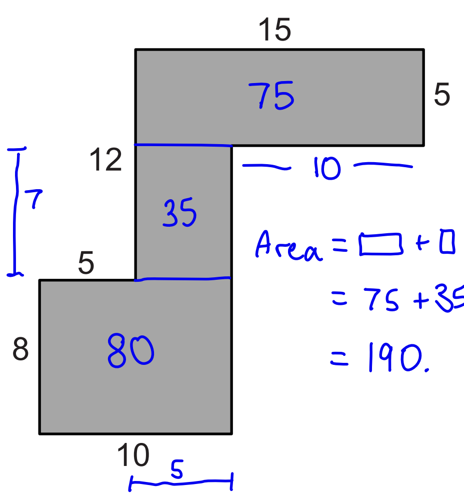
$$\begin{array}{r} 600 \\ +160 \\ +150 \\ +40 \\ \hline 950 \end{array}$$

2. Use the lattice method to multiply 569×32.



1 8, 2 0 8

3. Find the area of the shaded region.

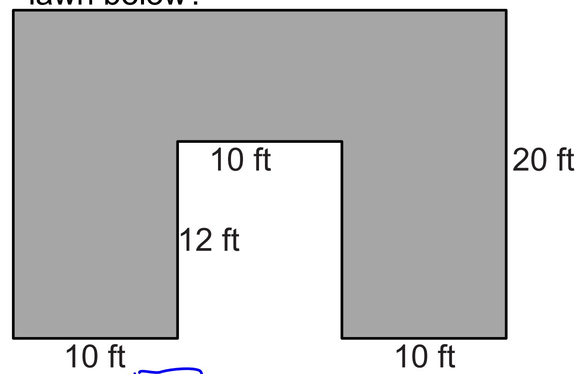


Area = $\square + \square + \square$

= 75 + 35 + 80

= 190.

4. It costs \$2 per ft² to lay artificial turf. How much will it cost to lay artificial turf on the lawn below?



Area = $\square - \square$

= 20×30 − 10×12

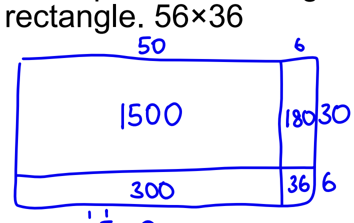
= 600 − 120

= 480 ft²

Cost = $\$2/\text{ft}^2 \times 480\ \text{ft}^2$

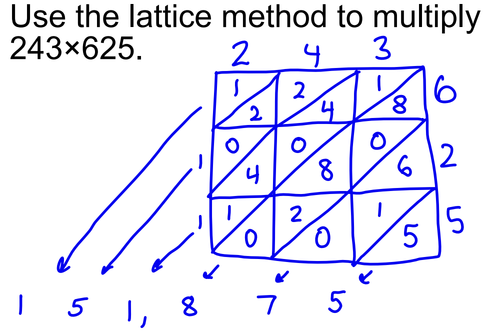
= \$960.

5. Show how the multiplication algorithm corresponds to finding area of a rectangle. 56×36



$$\begin{array}{r} 1500 \\ +300 \\ +180 \\ +36 \\ \hline 2{,}016 \end{array}$$

6. Use the lattice method to multiply 243×625.



1 5 1, 8 7 5

Challenge Problem: Consider all the rectangles that have whole number length sides and a perimeter of 40 units. Which rectangle has the greatest area?

The possible rectangles have area equal to 1×19 = 19, 2×18 = 36, 3×17 = 51, 4×16 = 64, 5×15 = 75, 6×14 = 84, 7×13 = 91, 8×12 = 96, 9×11 = 99, and 10×10 = 100. The rectangle of greatest area is a square measuring 10×10.

Long Division

Objectives: 4.NBT.B.6

Long division

Warm-up Problem: Use the numbers below to make the number 4 by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers.

5, 3, 4, 1

1. 524÷3 = 174 R2

```
   174
3 |524
  -3
   22
  -21
    14
   -12
     2
```

2. 52,088÷7 = 7,441 R1

```
   7441
7 |52088
  -49
    30
   -28
     28
    -28
      08
      -7
       1
```

3. 47,333÷12 = 3944 R5

```
    3944
12 |47333
   -36
    113
   -108
      53
     -48
      53
     -48
       5
```

4. 1,000,000÷11 = 90909 R1

```
    90909
11 |1000000
   -99
     100
     -99
       100
       -99
         1
```

5. 9,301÷8 = 1162 R5

```
   1162
8 |9301
  -8
   13
   -8
    50
   -48
     21
    -16
      5
```

1. 724÷6 = 120 R 4.

```
  120
6|724
 -6
  12
 -12
   04
  - 0
    4
```

4. 1,020,304÷9 = 113,367 R 1

```
  113367
9|1020304
 -9
  12
  -9
   30
  -27
    33
   -27
     60
    -54
      64
     -63
       1
```

2. 6,294÷7 = 899 R 1

```
  899
7|6294
 -56
  69
 -63
   64
  -63
    1
```

5. 987,654,321÷12 = 82,304,526 R9

```
   82304526
12|987654321
  -96
   27
  -24
    36
   -36
     05
     -0
      54
     -48
       63
      -60
        32
        24
         81
        -72
          9
```

3. 60,813÷5 = 12,162 R 5

```
  12162
5|60813
 -5
  10
 -10
   08
  - 5
    31
   -30
     13
    -10
      3
```

Challenge Problem: Find the value of the digit D in the long division calculation below.

If 6 times a number is between 2000 and 3000, the number must be between 333 and 500. Thus D = 4.

```
  D1D
6|2D8D
```

```
  414
6|2484
 -24
   08
  - 6
    24
```

Division Problems

Objectives: 4.NBT.B.6, 4.OA.A.3

Division Word Problems

Warm-up Problem: Use the numbers below to make the number 6 by combining them with appropriate mathematical symbols. You can rearrange them in any way you want, but be sure to use all 4 numbers. **5, 8, 4, 2**

1. Use division to find the number of weeks in one year. What does the remainder mean?

Divide 365 days into 7-day chunks.

$$\begin{array}{r} 52 \\ 7\overline{)365} \\ -35 \\ \hline 15 \\ -14 \\ \hline 1 \end{array}$$

There are 52 weeks and 1 day in a year.

2. Bab wants to read a 328-page book and a 233-page book in the next 8 days. How many pages must Bab read each day to complete both books?

Bab needs to read 233 + 328 = 561 pages.

Divide the 561 pages in 8 chunks.

$$\begin{array}{r} 70 \\ 8\overline{)561} \\ 56 \\ \hline 01 \end{array}$$

Bab needs to read 70 pages each day and 71 pages once.

3. Clucky lays an egg every 3 days. How many eggs can Clucky lay in 50 days?

Divide 50 into 3 day chunks

$$\begin{array}{r} 16 \\ 3\overline{)50} \\ -3 \\ \hline 20 \\ 18 \\ \hline 2 \end{array}$$

Clucky can lay 16 eggs in 50 days.

4. Eliza makes 36 banana muffins for her family of 5. How many muffins should each person get?

Split 36 5 ways.

$$\begin{array}{r} 7 \\ 5\overline{)36} \\ 35 \\ \hline 1 \end{array}$$

Everyone gets 7 muffins with one left over.

1. Syl has been saving quarters in her drawer. She counts and finds that she has 326 quarters. How many dollars does Syl have?

Divide 326 into piles of 4.

$$\begin{array}{r} 81 \\ 4\overline{)326} \\ -32 \\ \hline 06 \\ -4 \\ \hline 2 \end{array}$$

Syl has $81 and 2 quarters, or $81.50.

2. It takes 3 hours to crochet a hat. Chris will spend 2 hours per day crocheting hats for each day in March. How many hats will Chris crochet?

March has 31 days, so Chris will spend $2 \times 31 = 62$ hours crocheting. In that time, Chris will make $62 \div 3 = 20$ R 2 hats. That is, Chris will make 20 hats and part of another hat

3. A football team has 11 players. A football league has 833 players to divide up into teams. How many teams can the league create?

$$\begin{array}{r} 75 \\ 11\overline{)833} \\ 77 \\ \hline 63 \\ -55 \\ \hline 8 \end{array}$$

The league can create 75 teams with 8 players left over.

4. Orson bakes 45 sugar cookies, 19 chocolate chip cookies, and 32 pumpkin cookies. He plans to deliver an equal number of cookies to each of his 8 friends. How many cookies will each friend get?

Orson bakes $45 + 19 + 32 = 96$ total cookies. Each friend will get $96 \div 8 = 12$ cookies.

Challenge Problem: A bin contains 37,990 marbles that need to be divided into bags of 12 marbles each. How many marbles will be left over once the bags are filled?

$$\begin{array}{r} 3165 \\ 12\overline{)37990} \\ -36 \\ \hline 19 \\ -12 \\ \hline 79 \\ -72 \\ \hline 70 \\ -60 \\ \hline 10 \end{array}$$

$37,990 \div 12 = 3,165$ R 10.

There will be 10 marbles left over.