lesson nineteen - student resource sheet

Lesson Objective: Add, subtract, multiply, and divide integers.

Vocabulary Box

factor — One of two or more expressions that are multiplied together to get a product.
Example: In 4 x 10 = 40, 4 and 10 are factors.

Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

I. Match each problem with its answer. You will use some answers more than once.

_____1. 4 + 11	A. –44
_____2. 11 ● (–4)	B. –15
_____3. 11 + (–4)	C. –7
_____4. –11 + (–4)	D. 7
_____5. –4 ● (–11)	E. 15
_____6. –4 + (–11)	F. 44
_____7. 4 ● 11	
_____8. –11 ● 4	

II. Find each sum, difference, product, or quotient.

1. 8 – (–7) = _____
2. –12 – 4 = _____
3. –56 ÷ 4 = _____
4. –5 ● 15 = _____
5. –6 + 16 = _____
6. –196 ÷ (–7) = _____
7. –36 + (–98) = _____
8. –16 ● (–4) = _____

Directions: Recall the order of operations to help you solve the following problems.

1. –4 + 6 ● (–8) = _____
2. [5 – (–8)]●[–63 ÷ (–9)] = _____
3. –2 – 3 • (–4 – 5) = _____

Four friends each made up a number riddle. Try to find each person's starting number.

Artell:
First, I added –7 to my starting number.
Then, I divided that result by 3.
Then, I subtracted 7 from that result.
Finally, I multiplied that result by –11.
I ended up with 88.
What was my starting number?

Huynh:
First, I divided my starting number by –4.
Then, I multiplied that result by 7.
Then, I subtracted 200 from that result.
Finally, I added –37 to that result.
I ended up with –62.
What was my starting number?

Birgitta:
First, I subtracted 9 from my starting number.
Then, I multiplied that result by –6.
Then, I divided that result by –3.
Then, I added 24 to that result.
Finally, I multiplied that result by itself.
I ended up with 36.
What was my starting number?
What else could it have been?

Nighthorse:
First, I took half of my starting number.
Then, I subtracted –9 from that result.
Then, I multiplied that result by –4.
Then, I added that result to itself.
I ended up with –24.
What was my starting number?

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Directions: Solve each problem.

1. 9 – (–13) = _____

2. –12 ● (–30) = _____

3. –7 + 25 = _____

lesson twenty - student resource sheet

Lesson Objective: Solve word problems by writing and solving equations involving more than one operation or expression.

Vocabulary Box

additive inverse — For any number *x*, the number that gives zero when added to *x*. Examples: 10 is the additive inverse of –10; –6 is the additive inverse of 6.

multiplicative inverse — For any number (or fraction) *x*, the number that gives 1 when multiplied by *x*. Examples: $\frac{2}{3}$ is the multiplicative inverse of $\frac{3}{2}$; $\frac{6}{7}$ is the multiplicative inverse of $\frac{7}{6}$.

Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure that you show all your work. Remember to check your answers!

I. Solve each equation.

1. $9z - 49 = 23$

2. $\frac{x}{4} + 12 = 28$

3. $101 = 15w + 56$

4. $\frac{v}{12} - 7 = 13$

II. Write an equation for the word problem and solve the equation.

1. Four less than the quotient of a number out of 5 is equal to 6.

2. When 4 is added to the quotient of a number divided by 7, the result is 8. What is the number?

3. Jasmine buys three shirts, and the sales tax is $1.50. She owes a total of $31.50. How much does each shirt cost?

Summary/Closure

A. Vocabulary Words

Directions: Fill in each blank with the correct word. Use today's vocabulary terms as a guide.

1. The _____ of 13 is –13 because their _____ equals _____.

2. The _____ of $-\frac{1}{8}$ is –8 because their _____equals_____.

B. Summarize What We Learned Today

Directions: Write and solve a sample equation with two operations in the equation. Next, write one sample word problem that will translate into an equation with two operations. Write an equation for the word problem, and solve the equation. Remember to show your work and check your answers. Finally, write several sentences explaining how you translated the word problem into an equation. You will use this explanation as a personal reminder.

lesson twenty-one - student resource sheet

Lesson Objective: Solve word problems by writing and solving equations involving more than one operation or expression.

Vocabulary Box

additive inverse — For any number *x*, the number that gives zero when added to *x*. Examples: 10 is the additive inverse of –10; –6 is the additive inverse of 6.

multiplicative inverse — For any number (or fraction) *x*, the number that gives 1 when multiplied by *x*. Examples: $\frac{2}{3}$ is the multiplicative inverse of $\frac{3}{2}$; $\frac{6}{7}$ is the multiplicative inverse of $\frac{7}{6}$.

Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure that you show all of your work and check your answers.

I. Solve each equation.

1. $\frac{a}{9} - 14 = 26$

2. $20 = \frac{d}{4} + 8$

3. $7h + 31 = 108$

4. $98 = 8h - 78$

II. Write an equation and solve each word problem.

1. Jeremy bought 18 tickets. This was 2 less than 4 times the number Rodney sold. How many tickets did Rodney sell?

2. Holly's age is 7 years more than half her sister's age. If Holly is 17, how old is her sister?

3. Jason's $27 paycheck was $3 less than twice Lucas' paycheck. How much did Lucas earn?

4. Josh's house is 3 miles more than 3 times as far from school as J.D.'s house. If Josh's house is 12 miles from school, how far from school is J.D.'s house?

5. Five more than 2 times a number x is 11.

6. It will cost $240 to charter a bus for a class trip. There is already $65 in the class treasury. The 25 students agree to pay the difference evenly. How much will each student pay?

7. Nick's age is 4 years more than his mother's age divided by 6. If Nick is 9, how old is his mother?

Directions: Solve each equation. Show your work. Remember to check your answers!

1. $\frac{x}{-4} + 13 = -5$

2. $3y + 7y - 145 = 107 - 72$

3. $-92 = -y - 105$

Problem Solving

Directions: Reorder the following parts of sentences to make three logical word problems. Then solve each word problem. Check your answers.

than 5 times Patrick's

5 is 55. How many

to earn a total of $80.00?

Fifteen times the number

Kirk has earned $21.50.

Four less

age is 71. How

hour, how much longer

are on your team?

old is Patrick?

of players on your team minus

will he have to work

At $4.50 per

lesson twenty-one - student resource sheet

Directions: Solve the following problems. Show your work, and remember to check your answers.

1. 5m + 26 = 41

2. $\frac{x}{9} - 2 = 3$

3. Ellen earns $5.25 an hour. Last week she earned $99.50, which included a $5 bonus. How many hours did she work last week?