

lesson sixteen - student resource sheet

Lesson Objective: Divide integers with unlike signs.

Vocabulary Box

dividend — In $a \div b = c$, the dividend is a. Example: In $10 \div 5 = 2$, 10 is the dividend.

divisor — In $a \div b = c$, the divisor is b. Example: In $10 \div 5 = 2$, 5 is the divisor.

inverse operations — Two operations that have the opposite effect. Examples: multiplication and division; addition and subtraction.



Guided Practice

Directions: Complete the following practice problems. You may work with a partner for Parts I and II. Your teacher will review the answers. Make sure you show all your work

I. Find the quotient.

1. $56 \div (-7) =$ _____

2. $-64 \div 8 =$ _____

3. $40 \div (-8) =$ _____

4. $-35 \div (-7) =$ _____

II. Find the dividend.

1. _____ $\div 3 = -8$

2. _____ $\div (-4) = -3$

3. _____ $\div (-7) = 6$

4. _____ $\div 3 = -9$

III. Find the divisor. Please work independently.

1. $36 \div \underline{\hspace{2cm}} = -6$

2. $-15 \div \underline{\hspace{2cm}} = -5$

3. $-32 \div \underline{\hspace{2cm}} = 4$

4. $72 \div \underline{\hspace{2cm}} = -8$



Summary/Closure

A. Vocabulary Words

Directions: Answer the following questions.

- For the division sentence, $-54 \div 9 = -6$, which of the following is true? Circle the correct letter.
 - The dividend is -6 . The divisor is 9 . The quotient is -54 .
 - The dividend is -6 . The divisor is -54 . The quotient is 9 .
 - The dividend is -54 . The divisor is 9 . The quotient is -6 .
 - The dividend is 9 . The divisor is -54 . The quotient is -6 .
- Fill in the blank with the inverse operation for each operation.
 - addition: _____
 - division: _____
 - multiplication: _____
 - subtraction: _____

B. Summarize What We Learned Today

Directions: Write eight sample division problems and solve them. Use a variety of combinations of signs for the dividends and divisors. Then write the rule for division with unlike signs. Use these words: divisor, dividend, and unlike signs.

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Lesson Objective: Divide integers with unlike signs.

Vocabulary Box

dividend — In $a \div b = c$, the dividend is a . Example: In $10 \div 5 = 2$, 10 is the dividend.

divisor — In $a \div b = c$, the divisor is b . Example: In $10 \div 5 = 2$, 5 is the divisor.

inverse operations — Two operations that have the opposite effect.
Examples: multiplication and division; addition and subtraction.



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. Find the following quotients.

1. $54 \div 6 =$ _____

2. $32 \div (-8) =$ _____

3. $-49 \div (-7) =$ _____

4. $-14 \div 7 =$ _____

5. $35 \div 5 =$ _____

6. $40 \div (-5) =$ _____

7. $-56 \div (-8) =$ _____

8. $-81 \div 9 =$ _____

II. Find the quotient. Then rearrange the problems so the quotients are in order from least to greatest. Their corresponding letters will answer the riddle.

E) $18 \div (-9) =$ _____

G) $-42 \div (-7) =$ _____

H) $-21 \div 7 =$ _____

I) $7 \div (-7) =$ _____

I) $100 \div 25 =$ _____

K) $-99 \div 11 =$ _____

N) $96 \div (-12) =$ _____

N) $-140 \div (-20) =$ _____

O) $-63 \div 9 =$ _____

R) $0 \div (-13) =$ _____

S) $-128 \div (-64) =$ _____

S) $-81 \div (-9) =$ _____

T) $-64 \div (-4) \div (-4) =$ _____

W) $975 \div (-195) =$ _____

What does a math student have in common with a baseball first-base coach?

They both _____/_____/_____.

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Directions: Find the quotient.

1. $-10 \div 2\frac{1}{2} =$ _____

2. $-\frac{7}{8} \div (-6\frac{3}{4}) =$ _____

3. $4 \div (-16) =$ _____

Problem **Solving**

In each of the following tables, all of the rows have a pattern, and all of the columns have a pattern. Find the missing values in each table. Then answer the questions for each table.

Hint: Add or divide.

32	48	64	80	96
-16	-24	-32	-40	
8	12	16	20	
-4	-6	-8	-10	
2				

What is a rule for the 4th row?

What is a rule for the 5th row?

What is the rule for all the columns?

Hint: Multiply, add, or divide, or do more than one of these.

-25	125	-625	3,125	-15,625	
10	-20	130	-620		
3		-21		-621	

What is a rule for the 1st row?

What is a rule for the 2nd row?

What is a rule for the 3rd row?

What is the rule for all the columns?

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Directions: Find the quotient.

1. $20 \div (-5) =$ _____

2. $-20 \div 5 =$ _____

3. $-20 \div (-5) =$ _____

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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 $4 \times 10 = 40$, 4 and 10 are factors.



Guided Practice

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

I. Find each sum.

1. $15 + (-8) =$ _____

2. $-23 + (-17) =$ _____

II. Find each difference.

1. $4 - (-8) =$ _____

2. $-11 - 9 =$ _____

3. $-5 - (-6) =$ _____

III. Find each product.

1. $-4 \bullet (-13) =$ _____

2. $-5 \bullet 4 =$ _____

IV. Find each quotient.

1. $56 \div (-7) =$ _____

2. $-132 \div (-11) =$ _____

Directions: Fill in each blank with two numbers that will make a true number sentence. At least one of your chosen numbers must be negative. Please work independently.

1. _____ + _____ = 22

2. _____ + _____ = -13

3. _____ - _____ = -16

4. _____ - _____ = 4

5. _____ • _____ = 12

6. _____ • _____ = -42

7. _____ ÷ _____ = -2

8. _____ ÷ _____ = 3

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Summary/Closure

A. Vocabulary Words

Directions: Answer the following questions.

1. In the multiplication sentence $-9 \bullet 4 = -36$, which numbers are the factors?
2. List all the integer factors of -24 . Hint: There are 16.

B. Summarize What We Learned Today

Directions: Write three sample problems like the ones we learned today for each of the four operations, and solve them. You will have 12 problems total. Then explain the rules for addition, subtraction, multiplication, and division of integers. You will use this explanation as a personal reminder.

