Summer Homework Instructions for Math 7:

****PLEASE READ FIRST****

The first 3 pages have Review on top half where it shows you how to do the problems. (There is a picture of a dog on the top of these)

YOU COMPLETE THE BOTTOM HALF of the 3 pages WHERE IT SAYS PRACTICE MAKES PURR-FECT

Complete all other pages.

There is one full page of completed “solving one -step equations”. Use these examples to help you complete the “practice with 1 step equations” and “solving linear equations”.

Have a great summer and looking forward to seeing you in August!

REVIEW: Adding and Subtracting Integers

Name _____

Key Concept and Vocabulary

terms sum

$6 + (-2) = 4$

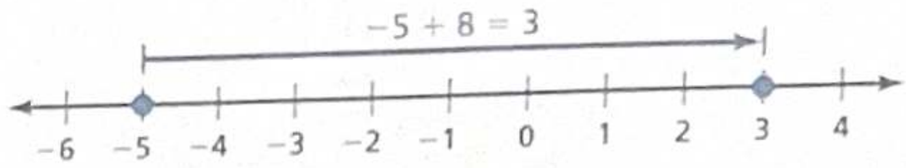
$7 - (-3) = 10$

terms difference



Visual Model

To add a positive number, move to the *right*.



To subtract a positive number, move to the *left*.

Skill Examples

1. $5 + (-3) = 5 - 3 = 2$
2. $5 - (-2) = 5 + 2 = 7$
3. $-2 + 4 = 2$
4. $-3 - (-2) = -3 + 2 = -1$
5. $8 - (-3) = 8 + 3 = 11$

To subtract, change the sign and add.

Application Example

6. The temperature is 8°F in the morning and drops to −5°F in the evening. What is the difference between these temperatures?

$8 - (-5) = 8 + 5$

$= 13$

∴ The difference is 13 degrees.

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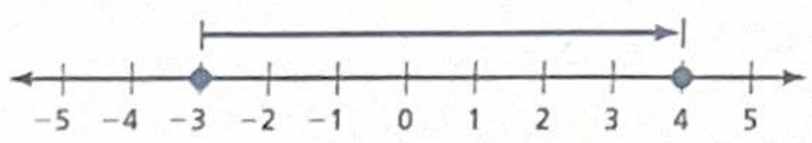
Check your answers at BigIdeasMath.com.

Find the sum or difference.

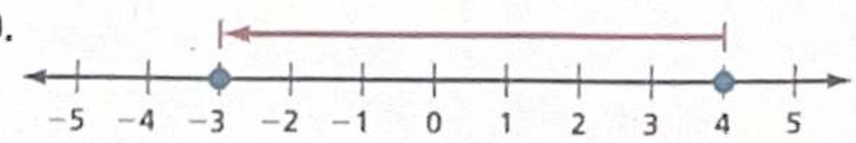
7. $-2 + 3 =$ ____
8. $-4 - 5 =$ ____
9. $8 - 2 =$ ____
10. $8 - (-2) =$ ____
11. $-4 - (-1) =$ ____
12. $-5 + (-5) =$ ____
13. $4 - (-8) =$ ____
14. $4 - 8 =$ ____
15. $-4 + (-6) =$ ____
16. $-4 - (-6) =$ ____
17. $10 - 13 =$ ____
18. $13 - (-10) =$ ____

Write the addition or subtraction shown by the number line.

19.



20.



21. **TEMPERATURE** The temperature is 16°F in the morning and drops to −15°F in the evening. What is the difference between these temperatures? _____

22. **SUBMARINE** A submarine is 450 feet below sea level. It descends 300 feet. What is its new position? Show your work.



_____

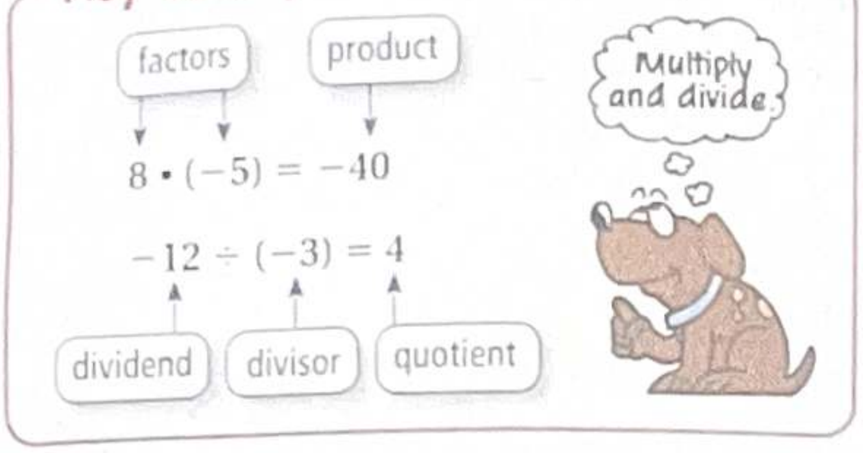
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REVIEW: Multiplying and Dividing Integers

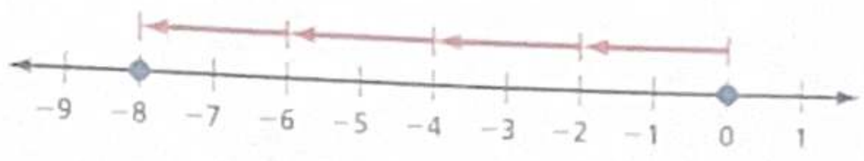
Name _____

Key Concept and Vocabulary



Visual Model

$4 \cdot (-2) = (-2) + (-2) + (-2) + (-2)$



Skill Examples

1. $-3 \cdot (-4) = 12$ ← same sign, product and quotient positive
2. $-36 \div (-6) = 6$ ← same sign, product and quotient positive
3. $-7 \cdot 0 = 0$
4. $-10 \div 5 = -2$ ← different signs, product and quotient negative
5. $-5 \cdot 6 = -30$ ← different signs, product and quotient negative

Application Example

6. Each of your six friends owes you $5. Use integer multiplication to represent the total amount your friends owe you.

$6 \cdot (-5) = -30$

∴ The total amount owed is $30.

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Check your answers at BigIdeasMath.com.

Find the product or quotient.

7. $-3 \times (-5) =$ ____
8. $7(-3) =$ ____
9. $0 \cdot (-5) =$ ____
10. $(-5)(-7) =$ ____
11. $-8 \cdot 2 =$ ____
12. $(-5)^2 =$ ____
13. $(-3)^3 =$ ____
14. $4(-2)(-3) =$ ____
15. $-16 \div 4 =$ ____
16. $-20 \div (-5) =$ ____
17. $\frac{-9}{3} =$ ____
18. $\frac{-20}{-10} =$ ____

Complete the multiplication or division equation.

19. $-15 \div$ ____ $= -3$
20. $45 \div$ ____ $= -5$
21. ____ $\div (-20) = 5$
22. $8 \cdot$ ____ $= -64$
23. ____ $\cdot (-9) = 27$
24. $-12 \cdot$ ____ $= -96$

25. **TOTAL OWED** Each of your eight friends owes you $10. Use integer multiplication to represent the total amount your friends owe you. _____

_____

26. **TEMPERATURE** The low temperatures for a week in Edmonton, Alberta are $-15°C$, $-12°C$, $-10°C$, $-12°C$, $-18°C$, $-20°C$, and $-25°C$. What is the mean low temperature for the week? Show your work.

_____

_____

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REVIEW: Simplifying Expressions

Name _____

Key Concept and Vocabulary

Combine variable terms.

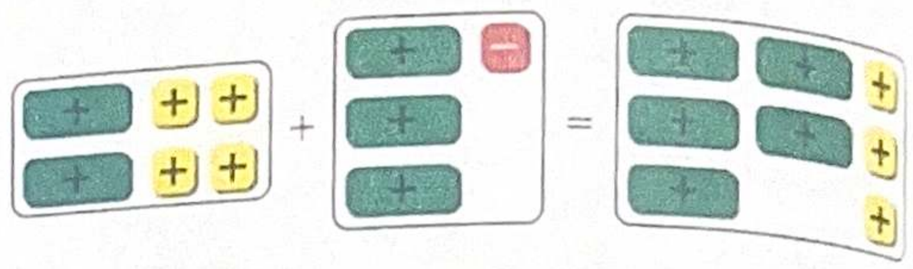
$2x + 4 + 3x - 1 = 5x + 3$

Combine numerical terms.



Visual Model

Algebra Tiles



Skill Examples

1. $2x + 5x = 7x$
2. $1 + n + 4 = n + 5$
3. $(2x + 3) - (x + 2) = x + 1$
4. $2(y - 1) + 3(y + 2) = 5y + 4$

Application Example

5. The original cost of a shirt is x dollars. The shirt is on sale for 30% off. Write a simplifed expression for the sale cost.



$x - 0.3x = 0.7x$

∴ The sale cost is $0.7x$.

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Check your answers at BigIdeasMath.com.

Simplify the expression. ***(Remove parentheses and combine like terms.)***

6. $4x + 6x =$ _____
7. $3n + 5 - 2n =$ _____
8. $9x + 3 - 6x - 2 =$ _____
9. $3(x + 2) =$ _____
10. $7m - 2m + 5m =$ _____
11. $2 - (x + 1) =$ _____
12. $(3x + 6) - x =$ _____
13. $5 - (1 - n) =$ _____
14. $(x + 6) \div (x + 6) =$ _____
15. $(4x - 2) + 3(x + 1) =$ _____
16. $(5x + 4) - 2(x + 1) =$ _____
17. $5(x + 2) - 2(x + 2) =$ _____

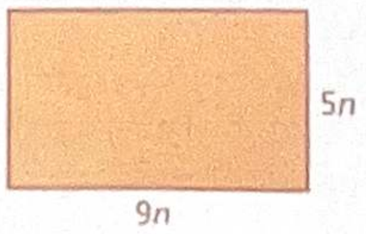
Write a simplified expression for the perimeter of the rectangle or triangle.

18.



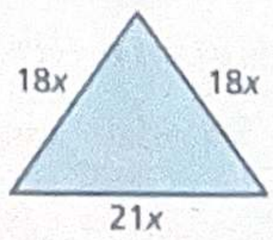
Perimeter = _____

19.



Perimeter = _____

20.



Perimeter = _____

21. The original cost of a cell phone is x dollars. The phone is on sale for 35% off. Write a simplified expression for the sale cost. _____



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Name:

Distributive Property Practice

Simplify each expression using distributive property.

$3(4x + 7)$

Ans: $12x + 21$

$4(6m - 4)$

Ans: $24m - 16$

$-11(4y - 3)$

Ans: $-44y + 33$

$5(2y - 7)$

$12(4x + 1)$

$8(10 - m)$

$-2(3k + 6)$

$3(5 - x)$

$-3(8h + 7)$

$6(-4 + w)$

$-(4x + 3)$

$11(2x + 4)$

$9(-x - 3)$

$9(-5p - 7)$

$2(8x + 4)$

$-10(4y - 8)$

$-7(7x + 2)$

$5(6 - 3x)$

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Name: _____ Date: _____ Pd: _____

COMBINING LIKE TERMS

Directions: Simplify each expression by combining like terms.

#1 $-7 + 13x + 2x + 8$

Ex: $15x + 1$

#2 $9 + 7y - 2 - 5y$

$2y + 7$

#3 $2 + 3x - 4x + 6$

#4 $5 + 2x + 2$

#5 $2(4x - 1) + x$

#6 $6x + 2(x + 4)$

#7 $3(x + 5) - 10$

#8 $15x - (x - 4)$

Name: _____ Date: _____ Pd: ____

SOLVING ONE-STEP EQUATIONS

Directions: Solve each equation. Show all work and check your answers.

#1 $7x = 28$

Ex:

$\frac{7x}{7} = \frac{28}{7}$

$x = 4$

#2 $x - 15 = -27$

Ex:

$x - 15 = -27$

$+15 \quad +15$

$x = -12$

#3 $-16 + x = -6$

Ex:

$-16 + x = -6$

$+16 \quad +16$

$x = 10$

#4 $x + (-4) = 15$

Ex:

$x - 4 = 15$

$+4 \quad +4$

$x = 19$

#5 $x - (-6) = 11$

Ex:

$x + 6 = 11$

$-6 \quad -6$

$x = 5$

#6 $14 = 2x$

Ex:

$\frac{14}{2} = \frac{2x}{2}$

$7 = x$

#7 $\frac{x}{3} = 10$

Ex:

$(3)\frac{x}{3} = 10(3)$

$x = 30$

#8 $-6 = \frac{x}{4}$

Ex:

$(4)-6 = \frac{x}{4}(4)$

$-24 = x$

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Practice with 1 step equations

Name:



1. $x + 9 = 12$

2. $x - 12 = 1$

3. $x + 17 = 40$

4. $x(4) = 32$

5. $x / 8 = 11$

6. $x / 7 = 9$

7. $x - 13 = 17$

8. $x(12) = 108$

9. $x(10) = 90$

10. $x + 19 = 42$



11. $x(11) = 121$

12. $x - 100 = 100$

13. $x / 1 = 13$

14. $x(8) = 24$

15. $x+31 = 99$

16. $x - 116 = 221$

17. $x/6 = 54$



18. $x + 58 = 107$

19. $x / 3 = 12$

20. $x(6) = 24$

21. $x - 23 = 39$

22. $x / 9 = 72$



Name: _____

Solving Linear Equations



Directions: Solve the following equations:

Ex: 1. $\frac{3x}{3} = \frac{12}{3}$ $x = 4$

Ex: 2. $3x - 6 = 12$

$+6 \quad +6$

$\frac{3x}{3} = \frac{18}{3}$ $x = 6$

3. $-4x = 20$

4. $-4x + 8 = 20$

5. $5x = -30$

6. $-10 + 5x = 30$

7. $6x = -24$

8. $-6 - 6x = -24$

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Name: _____ Date: _____

ROUNDING DECIMALS

NUMBER	WHOLE NUMBER	TENTHS	HUNDREDTHS
Example 9.626	10	9.6	9.63
6.7431			
5.972			
0.7391			
3.229			
45.801			
302.210			
8.9021			
1.187			
32.092			
7.999			

Order Of Operations

Name : _____ Class : _____

Rules :

1. Parentheses
2. Exponents
3. Multiply and Divide (from left to right)
4. Addition and Subtraction (from left to right)

Answer the questions below!

1. $7 + 3 \times 5 =$ 22 (+ 15)
2. $35 \div 5 \times 4 =$
3. $12 + 8 \div 2 \times 6 =$
4. $16 \times (3 + 1) - 29 =$
5. $3^2 + 28 - 14 = 23$
6. $4 \times (5 + 6 - 3) =$
7. $38 - 8 \div 4 + 12 =$
8. $48 \div 6 \times 3 + (14 - 12) =$
9. $28 + 57 - 17 =$
10. $20 + (8 - 5)^2 \times 3 =$
11. $2^2 \times 16 - (32 + 22) =$
12. $40 - 32 + 22 =$
13. $27 \div 3 \times 2 + 13 =$
14. $70 - 7 \times (4 - 1)^2 =$
15. $25 - 6 \times 2^2 =$
16. $45 \div (10 - 5) \times 3 =$
17. $6 \times 8 - 11 + (16 \div 2) =$
18. $(12 + 13) \times 5 - 20 =$
19. $(7 + 8) \div (25 - 22) =$
20. $18 + 6 \times 2 - 22 =$

Find your answer here

5	31	23	66	27	30	26	1
27	22	35	68	30	47	10	28	45
55	8	48	7	17	105	32	36