

10-1-18

Aim: SWBAT review.

HW: Test Tommorrow

Practice Integer Operations

- » IXL.com - requires a subscription
- » aaamath.com - free

Do Now: Correct hw

## HOMEWORK

Read each problem carefully, write a number sentence and solve.

- 1) At night the average temperature on the surface of the planet Saturn is  $-150$  degrees Celsius. During the day the temperature rises  $27$  degrees Celsius. What is the average temperature on the planet's surface during the day?

$$-150 + 27 = -123$$

The average surface temp is  $-123^{\circ}\text{C}$ .

- 2) To get a first down, a football team must gain  $10$  yards in  $4$  plays. If the team gained  $5$  yards on the first play, lost  $7$  yards on the second play, and gained  $8$  yards on the third play. How many yards must they gain on the fourth play to get a first down?

$$10 - (5 - 7 + 8) = 4$$

$$5 - 7 + 8 = 6$$

$$10 - 6 = 4$$

They must gain  $4$  yds on the fourth play.

- 3) A balloon rises  $200$  feet from the ground, drops  $150$  feet, and then rises  $300$  feet. What is the new height of the balloon?

$$200 - 150 + 300 = 350$$

The balloon's new height is  $350$  ft.

- 4) A scuba diver is  $85$  feet below sea level. The diver rises  $12$  feet then descends  $60$  feet. How far below sea level is the diver?

$$\begin{array}{r} 85 \\ + 60 \\ \hline 145 \end{array}$$

$$-145 + 12 = -133$$

$$-85 + 12 - 60 = -133$$

The diver is  $133$  ft below sea level.

- 5) The record low temperature for Albany, NY was  $-28^{\circ}\text{F}$ . The lowest temperature in U.S. history is  $52^{\circ}\text{F}$  lower than Albany's record low. What is the lowest temperature in U.S. history?

$$-28 - 52 = -80$$

The lowest temp. in U.S. history is  $-80^{\circ}\text{F}$ .

## HOMEWORK

Read each word problem, write a number sentence and solve.

- \* 13) A shoreline is changing -3 cm each year due to erosion. What will the change in the shoreline be in 6 years?

$$-3 \cdot 6 = -18$$

The shoreline erodes  
18cm.

- 14) The temperature during a 5-day period in Center City were  $-19^{\circ}\text{F}$ ,  $-14^{\circ}\text{F}$ ,  $-8^{\circ}\text{F}$ ,  $13^{\circ}\text{F}$  and  $18^{\circ}\text{F}$ . What was the average temperature for those 5 days?

$$\frac{-19 + (-14) + (-8) + 13 + 18}{5} = \frac{-10}{5} = -2$$

$$\begin{array}{r} 19 \\ 14 \\ + 8 \\ \hline 41 \end{array}$$

$$\begin{array}{r} 13 \\ + 18 \\ \hline 31 \\ -41 + 31 \\ \hline -10 \end{array}$$

- \* 15) The price of a stock rose \$2 yesterday. If the stock continues to change at the same rate each day, what will be the total change over 10 days?

$$2 \cdot 10 = 20$$

The total change  
over 10 days  
is \$20.

### Important Vocabulary

- Name the additive inverse for each. *opposite: change the sign*

5      11      -18      -99      0  
 -5      -11      18      99      0

- Name the multiplicative inverse for each. *reciprocal: flip*

$\frac{5}{1} \rightarrow \frac{1}{5}$      $\frac{11}{1} \rightarrow \frac{1}{11}$      $\frac{-18}{1} \rightarrow \frac{1}{-18}$      $\frac{-99}{1} \rightarrow \frac{1}{-99}$      $\frac{0}{1} \rightarrow \frac{1}{0}$  undefined

- State the absolute value of each.

|5|      5      11      -18      -99      0  
       5      11      18      99      0

- Name 3 numbers that are integers and 3 numbers that are not integers.

Name: \_\_\_\_\_  
Math 7R

date \_\_\_\_\_  
per \_\_\_\_

Evaluating variable expressions

Evaluate all problems for  $a = 2$  and  $b = -3$ . Show your work!

<p>A. <math>a - 5 - b</math></p> $\begin{array}{r} 2 - 5 - (-3) \\ -3 + 3 \\ 0 \end{array}$	<p>B. <math>b + a</math></p> $\begin{array}{r} -3 + 2 \\ -1 \end{array}$
<p>C. <math>5a + 8</math></p> $\begin{array}{r} 5(2) + 8 \\ 10 + 8 \\ 18 \end{array}$	<p>D. <math>4b</math></p> $\begin{array}{r} 4(-3) \\ -12 \end{array}$
<p>E. <math>-2a - 9</math></p> $\begin{array}{r} -2(2) - 9 \\ -4 - 9 \\ -13 \end{array}$	<p>F. <math>27 - 6 + 12 \cdot b</math></p> $\begin{array}{r} 27 - 6 + 12(-3) \\ 27 - 6 + (-36) \\ 21 + (-36) \\ -15 \end{array}$
<p>G. <math>-12 + b + 4</math></p> $\begin{array}{r} -12 + (-3) + 4 \\ -15 + 4 \\ -11 \end{array}$	<p>H. <math>-4a</math></p> $\begin{array}{r} -4(2) \\ -8 \end{array}$
<p>I. <math>b(b + 11)</math></p> $\begin{array}{r} -3(-3 + 11) \\ -3(8) \\ -24 \end{array}$	<p>J. <math>\frac{10 + 5a}{2} \rightarrow \frac{10 + 5(2)}{2} \rightarrow \frac{10 + 10}{2}</math></p> $\rightarrow \frac{20}{2} \rightarrow 10$

**ANSWER KEY**  
Tic Tac Toe  
Adding and subtracting integers

-9 G	0 A	18 C
-1 B	-13 E	9 I
-15 F	-12 D	10 J

Name: \_\_\_\_\_  
Math 7R

date \_\_\_\_\_  
per \_\_\_\_

Evaluating variable expressions

Evaluate all problems for  $a = 2$  and  $b = -5$ ,  $c = -4$ . Show your work!

<p>A. <math>2a - b</math></p> $\begin{aligned} & 2(2) - (-5) \\ & 4 + 5 \\ & 9 \end{aligned}$	<p>B. <math>b + c</math></p> $\begin{aligned} & -5 + (-4) \\ & -9 \end{aligned}$
<p>C. <math>abc</math></p> $\begin{aligned} & (2)(-5)(-4) \\ & 40 \end{aligned}$	<p>D. <math>10b</math></p> $\begin{aligned} & 10 \cdot -5 \\ & -50 \end{aligned}$
<p>E. <math>3b - c</math></p> $\begin{aligned} & 3(-5) - (-4) \\ & -15 + 4 \\ & -11 \end{aligned}$	<p>F. <math>(7 - a)^2 + b</math></p> $\begin{aligned} & (7 - 2)^2 + (-5) \\ & 5^2 + (-5) \\ & 25 - 5 \\ & 20 \end{aligned}$
<p>G. <math>5c + 25</math></p> $\begin{aligned} & 5(-4) + 25 \\ & -20 + 25 \\ & 5 \end{aligned}$	<p>H. <math>6 \cdot (b - a)</math></p> $\begin{aligned} & 6 \cdot (-5 - 2) \\ & 6(-7) \\ & -42 \end{aligned}$
<p>I. <math>-12 + b + a</math></p> $\begin{aligned} & -12 + (-5) + 2 \\ & -17 + 2 \\ & -15 \end{aligned}$	<p>J. <math>b^2 + a^2 - 1</math></p> $\begin{aligned} & \rightarrow \frac{(-5)^2 + 2^2 - 1}{-4} \\ & \rightarrow \frac{25 + 4 - 1}{-4} \rightarrow \frac{29 - 1}{-4} \rightarrow \frac{28}{-4} \rightarrow -7 \end{aligned}$

**ANSWER KEY**  
**Tic Tac Toe**  
**Evaluating Expressions with Substitution**

20 F	-42 H	-11 E
-15 I	-7 J	40 C
9 A	-50 D	5 G