

9-26-17

Aim: SWBAT apply knowledge of integers to complete contextual word problems.

HW: Worksheets

Quiz tomorrow (add, subtract, multiply, divide)

Test next Tuesday

Do Now: Classwork # 1 - 8

AIM: SWBAT multiply and divide integers.

DO NOW:

DO NOT COMPUTE!! State whether the answer will be POSITIVE, NEGATIVE or ZERO.

Rules for Adding/Subtracting

Same signs - _____

Different signs - _____

1) $(-19)(-10)$ _____

2) $-27 + 96$ _____

5) $-152 \div 4$ _____

6) $53 + 9$ _____

9) $\frac{-16}{-4}$ _____

10) $32 + -12$ _____

13) $15 - 27$ _____

14) $57 - 42$ _____

17) $-49 \div -7$ _____

18) $(-4)^{23}$ _____

Rules for Multiplying/Dividing two Integers

Same signs - _____

Different signs - _____

3) $-24 - (-19)$ _____

4) $-80 + 80$ _____

7) $(14)(7)$ _____

8) $(0)(9)$ _____

11) $0 - -5$ _____

12) $-42 - 50$ _____

15) $(29)(-30)(-20)$ _____

16) $-4 - (-4)$ _____

19) $-7 + 7$ _____

20) $(-5)^{10}$ _____

CLASSWORK:



Evaluate.

1) $5(-7)$
 -35

2) $-6 \cdot -3$
 18

3) $-4 \cdot 8$
 -32

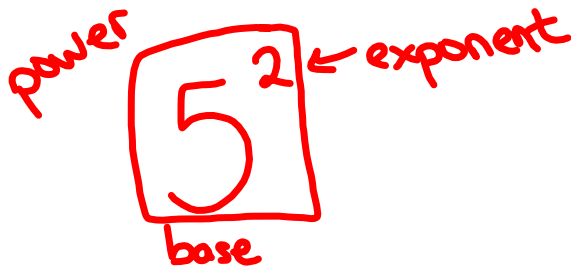
4) $-91 \div -7$
 13

5) $240 \div -15$
 -16

6) $\frac{-96}{3}$
 -32

7) $(-5)(-3)(7)$
 $(15)(7)$
 105

8) $(7)(4)(-2)(-1)$
 $(28)(2)$
 56



$$5 \cdot 5 = 25$$

$$(-1)(-1)(-1)$$

$$(-1)(-1)(-1)(-1)(-1)(-1)$$

$$(-1)^3$$

← neg. bases must go in parentheses

$$(-1)^6$$

"Neg. 1 to the 3rd power"
-1

-1³ "opp. of 1³"

$$(-1)^{51} \leftarrow \text{odd}$$

$$(-1)^{2000} \leftarrow \text{even}$$

$$-1$$

neg. bases always go in parentheses !!!

When completing a series of multiplication...

0 negative signs \longrightarrow +

1 negative sign \longrightarrow -

2 negative signs \longrightarrow +

3 negative signs \longrightarrow -

Therefore,

Even # of negative signs \longrightarrow positive answer

Odd # of negative signs \longrightarrow negative answer

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?

$$-150 + 27 = -123$$

$$\begin{array}{r} 150 \\ - 27 \\ \hline \end{array}$$

- 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?

$$5 - 7 + 8 = 6$$

$$10 - 6 = 4$$

- 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?

$$200 - 150 + 300 = 350$$

- 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?

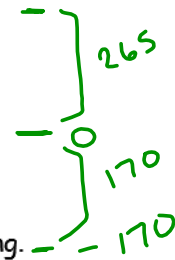
$$-85 + 12 - 60 = -133$$

- 5) The record low temperature for Albany, NY was -28°F . The lowest temperature in U.S. history is 52°F lower than Albany's record low. What is the lowest temperature in U.S. history?

$$-28 - 52 = -80$$

- 6) During the day the moon can reach a high temperature of 265°F . At night, the temperature can reach a low of -170°F . What is the difference between the high temperature and low temperature on the moon?

$$265 - (-170) = 435$$



- 7) Are the expressions $x - y$ and $y - x$ always opposites? Explain your reasoning.

$$\begin{array}{l} x = 0 \\ y = 0 \end{array}$$

$$\begin{array}{l} 0 - 0 \\ 0 \end{array} \quad \begin{array}{l} 0 - 0 \\ 0 \end{array} \checkmark$$

yes

$$\begin{array}{l} x = 1 \\ y = 2 \end{array}$$

$$\begin{array}{l} 1 - 2 \\ -1 \end{array} \quad \begin{array}{l} 2 - 1 \\ 1 \end{array}$$

- 8) Carl had \$200 in his checking account. He wrote 3 checks, one for \$57 and another for \$103. He did not record the amount of the third check. Carl received a statement stating that he overdrew his account (meaning he took out more money than he had) by \$55. What was the amount of the third check that Carl wrote?

$$200 - 57 - 103 - \boxed{x} = -55$$

$$200 - 57 - 103 = 40$$

$$40 - (-55) = \textcircled{95}$$

HOMEWORK: Evaluate.

1) $-63 \div 7$

-9

2) $-54 \div -9$

6

3) $16 \div 2$

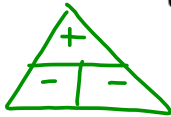
8

4) $-36 \div -6$

6

5) $-9 \cdot -13$

117



6) $4 \cdot -23$

-92

7) $-5(-12)$

60

* 8) $(-13)(7)$

-91

9) $-3(2)(7)$

-42

10) $-3(4)(-7)$

84

11) $(-7)(-8)(5)$

280

12) $(-2)(-4)(-5)$

-40

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?

$$(-3)(6) = -18$$

- 14) The temperature during a 5-day period in Center City were -19°F , -14°F , -8°F , 13°F and 18°F . What was the average temperature for those 5 days?

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

- 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?

$$2(10) = 20$$

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$\begin{array}{r} 13 \\ 7 \overline{)91} \\ \underline{-7} \\ 21 \end{array}$ 13

5) $240 \div -15$

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