

NAME: _____

Block: _____

ORDER OF OPERATIONS WORKSHEET

DIRECTIONS:

- Copy the original problem and show **ALL** work on an attached but separate sheet of paper. **(NO WORK = NO CREDIT!)**
- This worksheet is for **final answers only!!**
- What you do not finish in class is homework.
 - Use your time wisely, it is a grade. I will collect it tomorrow!

For #'s 1-10: Fill in the blanks with $>$, $<$, or $=$

1) -5 _____ -4

2) 3.6 _____ 3.06

3) $\frac{-(-6)}{+6}$ $>$ $\frac{-|-6|}{-6}$

4) $8 - 13$ _____ $-4 + -1$
 $8 + (-13)$

5) -2.5 _____ $3(-1)$

6) $\frac{2}{3}$ _____ $|-1/4|$
 Find common denominators to compare

7) $5(-1/20)$ $<$ $-(-0.25)$
 neg. answer pos. answer

8) $-(-2)^4$ $<$ $(-4)^2$
 $-(-2)(-2)(-2)(-2)$ $(-4)(-4)$
 $= -32$ $= 16$

**if you pay attention to signs you don't always have to solve out.

9) $-|-3 + 9|$ $<$ $-|-2 - (-6)|$

Handwritten work:
 $-|-3 + 9|$ → $-|6|$ → -6
 $-|-2 - (-6)|$ → $-|-2 + 6|$ → $-|4|$ → -4

10) $18 \div -2(3)$ $<$ $-20 - (-8) - 8 + 4$

Handwritten work:
 $18 \div -2(3)$ → $-9 \cdot 3$ → -27
 $-20 - (-8) - 8 + 4$ → $-20 + 8 - 8 + 4$ → $-12 - 8 + 4$ → $-20 + 4$ → -16

For #'s 11-30: Evaluate each expression.

$$11) 5 + -40 - (-6) = -29$$

$$5 + -40 + 6$$

$$-35 + 6$$

$$12) -12 - (-7) - |-4| = -9$$

$$-12 + 7 - 4$$

$$-5 + (-4)$$

$$13) -4(3)(-1)(-2)^2 = 48$$

$$(-2)(-2)$$

$$-4(3)(-1)(4)$$

$$-12(-4)$$

$$14) -(-6 + 3)^3 = 27$$

$$-(-3)^3$$

$$-(-3)(-3)(-3)$$

(**USE ODD AND EVEN RULE. 4 NEGATIVES IN THE PROBLEM. 4 IS EVEN SO THE ANSWER SHOULD BE POSITIVE)

$$15) 6 - [7 - 3(6 - 8)] = -8$$

$$6 - [7 - 3(-2)]$$

$$6 - [7 + 6]$$

$$6 - 13$$

$$16) 11 - 5 + (3 - 2^2) = -5$$

$$11 - 5 + (3 - 4)$$

$$11 - 5 + (-1)$$

$$6 + (-1)$$

$$17) -(-9)^2 = -81$$

$$-(-9)(-9)$$

(**USE ODD AND EVEN RULE. 3 NEGATIVES IN THE PROBLEM. 3 IS ODD SO THE ANSWER SHOULD BE NEGATIVE)

$$18) (1/4)^2 = 1/16$$

$$\frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$$

$$19) -3/8(2/5)(-1/3) = 1/20$$

$$\frac{-3}{8} \times \frac{2}{5} \times \frac{-1}{3}$$

$$20) -4/5 \div 12/25 = -1 \frac{2}{3}$$

$$21) 3(4 - 5 + 6) = 15$$

$$3(-1 + 6)$$

$$3(5)$$

$$22) 0.2 + 5.08 - 0.36 - 5 = -0.08$$

23) $4 - (14 + 12) - 24 - 50 = -96$

$$\begin{array}{r} 4 - 26 - 24 - 50 \\ \hline -22 + (-24) + (-50) \end{array}$$

**turn subtraction to addition.
ADD THE OPPOSITE**

24) $\frac{15 \cdot (-3)^3 - (-3) \div -5 - (-2)}{-6(2)}$

$$\frac{-403 \frac{3}{5}}{-12} \text{ or } 33.\overline{63}$$

STUDENT DOES NOT NEED TO BE ABLE TO REACH FINAL ANSWER BUT SHOULD BE ABLE TO WORK THROUGH PART OF THE PROBLEM TO SHOW THOUGHT PROCESS!

25) $2(3 - 6) - 2/3(6 - 15) = 0$

$$\begin{array}{r} 2(-3) - 2/3(-9) \\ \hline -6 - (-6) \\ \hline -6 + 6 \end{array}$$

$$\boxed{\frac{2}{3} \times \frac{9}{1} = \frac{6}{1}}$$

26) $12 - [3 - (4 + 3^2) \cdot 2] = 35$

$$\begin{array}{r} 12 - [3 - (4 + 9) \cdot 2] \\ 12 - [3 - (13) \cdot 2] \\ 12 - [3 - 26] \\ 12 - (-23) \\ 12 + 23 \end{array}$$

27) $12 \div 8 \cdot 4 = 6$

$$\frac{12}{8} \times \frac{4}{1} = \frac{12}{2}$$

REMEMBER: Division and fraction bars represent the same thing!!!

28) $36 - 18 \cdot 2 \div 4 = 28$

$$\begin{array}{r} 36 - 36 / 4 \\ 36 - 9 \end{array}$$

29) $3^4 \div 27 - (42 - 45)^2 = -6$

$$\begin{array}{r} 81 / 27 - (-3)^2 \\ 3 - 9 \\ 3 + (-9) \end{array}$$

30) $25 + 6\{3[5 - (2 - 3^5 + 4(6 - 4)^3 \div 4)]\} = 277$

$$\begin{array}{r} 25 + 6 \cdot 3 \cdot 14 \\ 25 + 252 \end{array}$$

31) $3 - |4 - 12| \div 2 \cdot 4 - (8 - 7)^3 = -12$

$$\begin{array}{r} 3 - 1 - 8 / 2 \cdot 4 - (-1)^3 \\ 3 - 8 / 2 \cdot 4 - (-1) \\ 3 - 4 \cdot 4 + 1 \\ 3 - 16 + 1 \\ 3 + (-16) + 1 \end{array}$$

32) $\frac{12 + 5(6 + 3)^2 \div 25}{15 - 4|6 - 10| + (-5 + 2)^2} = 28.2 \text{ or } 3.525$

STUDENT DOES NOT NEED TO BE ABLE TO REACH FINAL ANSWER BUT SHOULD BE ABLE TO WORK THROUGH PART OF THE PROBLEM TO SHOW THOUGHT PROCESS!

For #'s 33-36:

Let $a = -2$ $b = 3$ $c = 5$ $x = -1$ $y = -20$

33) $ab - cy = 94$

$$\begin{array}{r} (-2)(3) - (5)(-20) \\ \swarrow \quad \searrow \\ -6 \quad - (-100) \\ \quad \quad \quad \swarrow \\ \quad \quad \quad -6 + 100 \end{array}$$

34) $x^5 - (b - c) = 1$

$$\begin{array}{r} (-1)^5 - (3 - 5) \\ \swarrow \quad \searrow \\ -1 \quad - (-2) \\ \quad \quad \quad \swarrow \\ \quad \quad \quad -1 + 2 \end{array}$$

35) $y \div a(c) = 50$

$$\begin{array}{r} -20 \div -2(5) \\ \swarrow \\ 10(5) \end{array}$$

36) $b - x(c - a)^2 = 52$

$$\begin{array}{r} 3 - -1(5 - -2)^2 \\ \swarrow \quad \searrow \\ 3 + 1(5 + 2)^2 \\ \quad \quad \quad \swarrow \\ \quad \quad \quad 3 + 1(7)^2 \\ \quad \quad \quad \swarrow \\ \quad \quad \quad 3 + 49 \end{array}$$

Word Problem: For #37 use **distance (absolute value)** to solve. Write an expression and show all work/steps used to solve.

37) Jorge decided to impress some girls by diving off a cliff. The cliff was **235 feet above** sea level. He dove into the water and went **25 feet below sea** level. How far did he dive?

$$| 235 - (-25) |$$

OR

$$| -25 - 235 |$$

$$| 235 + 25 |$$

$$| -25 + -235 |$$

$$| 270 |$$

$$| -270 |$$

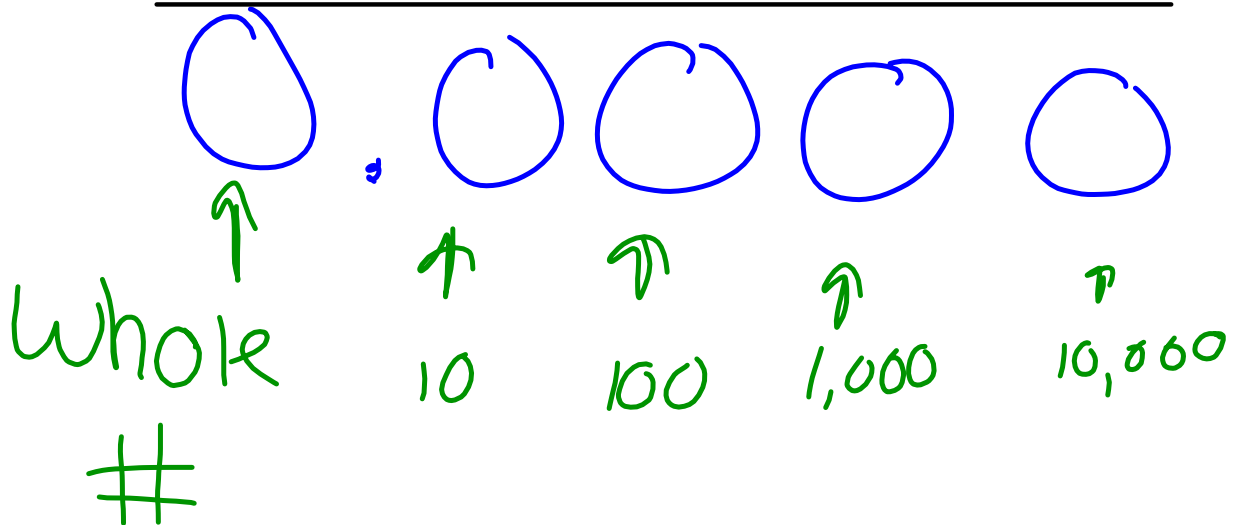
$$270$$

$$270$$

REMEMBER: absolute value is finding the difference which means to subtract. Since absolute value is always positive in the end it does not matter the order you subtract in. This is the only time that subtraction is commutative.

Fraction	Decimal	Percent
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{3}{10}$	0.3	30%

Decimal Place Value Review



$$0.375 \rightarrow \frac{375}{1,000} \div 25 = \frac{15}{40} \div 5 = \frac{3}{8}$$

$$8/5$$

$$0.625$$

62.5%

A

$$5 \overline{) 80} \\ \underline{-50} \downarrow \\ 30 \\ \underline{-30} \\ 0$$

P

$$8 \overline{) 5000} \\ \underline{-4800} \downarrow \\ 200 \\ \underline{-1600} \downarrow \\ 400 \\ \underline{-400} \\ 0$$

Order of Operations Review

QUIZ ON MONDAY

~~P~~ Grouping: (), [], { }

E xponents

— || √

2^5

~~2.5~~

$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 32$

~~MD~~

AS

L → R

WHAT TO DO NOW.....

- Go To Google Classroom
- Join our Khan Academy Class by clicking the link
- Complete the 3 addition/subtraction Review Quizzes
 - > These are NOT quizzes we are using them as a review class assignment.
 - > Your 3 scores will be averaged together
 - > You can take it over and over again until you are happy with your grade
 - > These must be completed by Tuesday Nov 6