

Math 7 Study Guide (Chapter 3 Integers)

Name _____

Key

Sections Covered in the the Textbook

- (3.1) Integers and Absolute Value**
- (3.2) Add Integers**
- (3.3) Subtract Integers**
- (3.4) Multiply Integers**
- (3.5) Divide Integers**

Vocabulary to Know and Be able to use:

absolute value	negative integer
additive inverse	number line models
commutative property	opposites
compare ($<$, $>$, $=$)	order of operations agreement
counter models	positive integer
integer	product
mean	quotient
median	sum

Be able to do the following:

- 1) Find the absolute value of a number and explain its meaning on the number line**
- 2) Add, subtract, multiply and divide with integers**
- 3) Evaluate algebraic expressions for a given variable**
- 4) Model addition, subtraction and multiplication with counters and number lines**
- 5) Write number sentences to model application problems**
- 6) Use the order of operations agreement to evaluate numerical expressions with integers**
- 7) Remember to find the change or difference between two things you subtract
Higher # - Lower #**

How to Study for the Test

- *Study your notes**
- *Look over your quizzes and redo ones you got wrong**
- *Go over homework problems and redo ones you got wrong**
- *Complete and correct the attached practice problems.**

Math 7 Sample Test Questions
(Chapter 3 Integers)

Name Key
Block _____ Date _____

SHOW CORRECT STEPS!

1) Evaluate:

$$\begin{aligned} & -4(-6 + 2) - (5 - 8) \\ & -4(-4) - (5 + -8) \\ & 16 - (-3) \\ & 16 + 3 \\ & \mathbf{19} \end{aligned}$$

2) Find the mean of these numbers.

$$\begin{aligned} & -12 \quad 20 \quad -8 \quad -24 \\ & \text{Add and } \div \text{ by } 4 \\ & -12 + 20 + -8 + -24 \\ & \quad \quad \quad -24 \\ & -24 \div 4 = \mathbf{-6} \end{aligned}$$

3) Find the median of these numbers.

$$\begin{aligned} & 9 \quad -4 \quad -7 \quad 2 \quad -8 \\ & \text{Put in order from smallest to largest} \\ & \text{Find middle \#} \\ & -8 \quad -7 \quad \mathbf{-4} \quad 2 \quad 9 \end{aligned}$$

4) The melting point of mercury is -39°C . The freezing point of alcohol is -114°C . Find the difference in these two temperatures.

$$\begin{aligned} & \text{High} - \text{Low} \\ & -39 - -114 \\ & -39 + 114 \\ & \mathbf{75^{\circ}} \end{aligned}$$

$$\begin{array}{r} 114 \\ -39 \\ \hline 75 \end{array}$$

5) Evaluate if $a = -3$ and $b = 5$ and $c = -2$
 $ab^2 + c$

$$\begin{aligned} & (-3)(5)^2 + (-2) \\ & -3(25) + -2 \\ & -75 + -2 \\ & \mathbf{-77} \end{aligned}$$

6) The temperature dropped 2° every hour for six hours. Write a number sentence to represent this situation.

$$\mathbf{-2(6) = -12^{\circ}}$$

7) Which of the following have a value of 10? Circle them. If the value is not 10, give its value.

$(-2)(5)$ additive inverse of 10
 -10 -10

$-x$ if $x = -10$
 $-(-10)$
 10

$-4 + -6$
 -10

deposit of \$10
 10

$|-10|$
 10

8)

A) Find the additive inverse of 10.

-10

B) Find the sum of -8 and 8

$-8 + 8 = 0$

C) Find the product of -7 and 2

$(-7)(2) = -14$

9) Evaluate: $(-5)^2 - (-2)^3$

$25 - (-8)$

$25 + 8$
 33

10) Evaluate:

$|-4 - 2| + |-3 + 10|$

$|-4 + -2| + |7|$

$|-6| + 7$

$6 + 7$

13

11) Evaluate if $a = -2$
 $b = 5$ and $c = -3$

$a(b + c)$

$-2(5 + -3)$

$-2(2)$

-4

12) A shark rises 68 feet from its current depth of 103 feet below sea level. Write a number sentence that finds its present position.

$-103 + 68 = -35$

35 feet below sea level

$\begin{array}{r} 103 \\ -68 \\ \hline 35 \end{array}$

13) Evaluate:

A) $-9 - 8$

$-9 + -8$
 -17

B) $2 - (-7)$

$2 + 7$
 9

C) $-4 + 10$

6

D) $(-12) \div (-2)$

6

E) $-5 + -5$

-10

F) $(8)(-5)$

-40

14) Kyle owes his brother \$40. He gives him the \$15 he earned shoveling snow. Write an addition expression to describe this situation. Then find the sum and explain its meaning.

$-40 + 15 = -25$

Kyle still owes his brother \$25

15) The temperature in Madison, WI fell from 20 degrees F at noon to -20 degrees F at 8 pm. What was the change in temperature?

High - Low

$20 - -20$

$20 + 20$

40° change

16) The average person loses 50 to 80 hairs per day to make way for new growth. Suppose you lose 70 hairs per day for 10 days without growing any. Write a multiplication expression to represent this situation. Then find the product and explain its meaning.

$-70(10) = -700$

In ten days you would lose 700 hairs.

17) Find Claude's mistake and fix it.

$-24 - 12 + (-2)$

$-24 - 10$

$-24 + (-10)$

-34

$-24 + -12 + -2$

$-36 + -2$

-38

18) A) $|-6| + |8|$

$6 + 8$

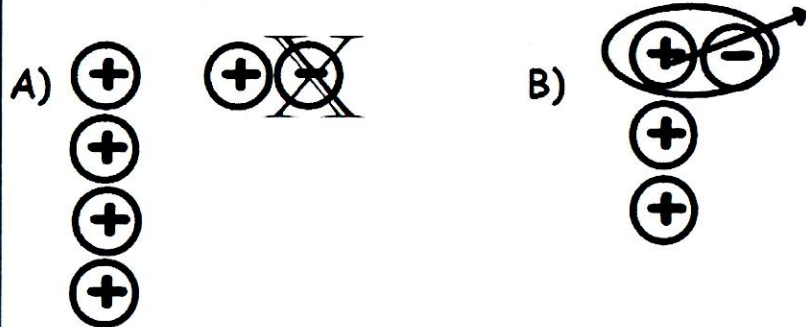
14

B) $|-6 + 8|$

$|2|$

2

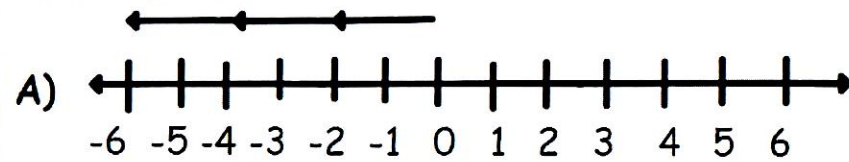
19) What problems are represented by these models?



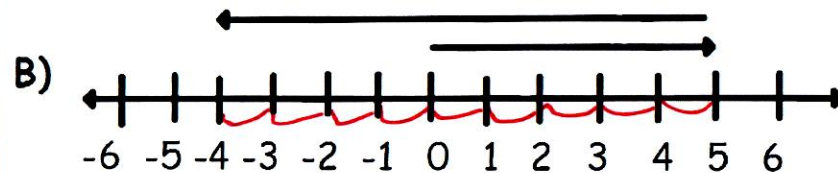
$$\boxed{4} \ominus \boxed{-1} = \boxed{5}$$

$$\boxed{3} \oplus \boxed{-1} = \boxed{2}$$

20) What problems are represented by these models?



$$\boxed{-2} \otimes \boxed{3} = \boxed{-6}$$



$$\boxed{5} \oplus \boxed{-9} = \boxed{-4}$$

21) Sara has \$400 in her bank account. She makes a \$200 ATM withdrawal and then deposits the \$50 she received from her grandmother for her birthday.

A) Write the arithmetic sentence represented by this scenario.

$$\boxed{400 + (-200) + 50 = 250}$$

$$450 + -200 = 250$$

B) Write a sentence explaining the meaning of the number you got as an answer in part A.

Sara now has \$250 in her account.

22) A football team did the following on a series of ~~three~~^{four} downs. They lost 12 yards, gained 4 yards, lost 2 yards and gained 20 yards in a series of four downs.

A) Write an addition sentence to show how to figure the total sum of yards from these plays.

$$\boxed{-12 + 4 + -2 + 20 = 10}$$

$$-14 + 24 = 10$$

B) Explain the meaning of this total.

After 4 downs the team gained 10 yards.