Math 7 Get Ready for Ch.3 Test
Operations with Integers

Name Key Block

Be sure you know your rules for adding, subtracting, multiplying, and dividing integers.

Addition

Like(Same) OR Unlike(Different) Signs ?

ADD absolute values
Sign of Answer?
Attach Like Sign

SUBTRACT absolute values
Sign of Answer? Use sign of # with greatest absolute value

Subtraction

Rewrite subtraction with its related addition problem

- *Keep the leader the same
- *Change subtraction sign to addition
- *Write the opposite of the 2nd #

Use **ADDITION** rules

Multiplication and Division

LIKE (same) signs → Answer POSITIVE
UNLIKE (different)signs → Answer NEGATIVE

$-9 - 3$
$-9 + -3$
-12

$-9(3)$
-27

$9 + (-3)$
6

$-9 - (-3)$
$-9 + 3$
-6

$(-9)(-3)$
27

$\frac{-9}{3}$
-3

Be sure you can use the order of operations correctly.

$-8(9 + -2)$
$-8(7)$
-56

$2(-3)^2$
$2 \cdot 9$
18

$(-6 - 2)(4 + -9)$
$(-6 + -2)(-5)$
$(-8)(-5)$
40

Be sure you can find change in temperatures. Subtract the lowest one from the highest one.

Example:
Find the change between -17°C and 30°C

Highest one - Lowest one
30 - (-17)
30 + 17
47°

Find the change between 98°F and -12° F

H - L
98 - (-12)
98 + 12
110

Be sure you can find the absolute value of a number.

$|-3|$
3

$|-7|+|9|$
7 + 9
16

$|3|-|-4|$
3 - 4
3 + -4
-1

$|9-12|$
|9 + -12|
|-3|
3

Be sure you can write an expression for a situation, show work to evaluate the expression and then explain its meaning.

Tina burns 400 calories for each mile she runs. If she runs 5 miles, how many calories has she burned?

(-400)(5) = -2000
or
5(-400)

In 5 hours she burns 2000 calories

Sara deposits $500 in her banking account. Then she withdraws $80, deposits $100 and withdraws $50.

500 + -80 + 100 + -50
600 + -130
470

She now has $470 in her account

Be sure you can evaluate algebraic expressions for a given value by showing the substitution step and then following the order of operations agreement step by step.

Example: Evaluate if a = 7, b = -5 and c = 3

$b - ac^2$

$-5 - (7)(3)^2$

$-5 - 7(9)$

$-5 - 63$

$-5 + -63$

-68

Evaluate if x = -2, y = 10, and z = -4

$xyz + z^2$

$(-2)(10)(-4) + (-4)^2$

$-4 \cdot -4$

$80 + 16$

96

Evaluate if x = -3, y = 2, and z = -5

$x - z + y$

$-3 - (-5) + 2$

$-3 + 5 + 2$

$2 + 2$

4

Evaluate if a = -2, b = 6, and c = -4

$bc \div a$

$(6)(-4) \div (-2)$

$-24 \div -2$

12

Be sure you can tell when order is important and when it is not.

Example: Find each of the following and tell if order is important.

$-9 + 2$ and $2 + -9$

-7 -7

Order is NOT important for addition. The commutative property says you can change the order of addends and still get the same answer.

Is order important in subtraction? Explain.

$-10 - 6$ and $6 - (-10)$

$-10 + -6$ $6 + 10$

$-16 \neq 16$

order is important

Is order important in multiplication? Explain.

$(-3)(-6)$ and $(-6)(-3)$

18 18

NO

Is order important in division? Explain.

$2 \div (-8)$ and $(-8) \div 2$

$-\frac{2}{8}$ $\frac{-8}{2}$

$-\frac{1}{4} \neq -4$

Yes order is important

Be sure you know the vocabulary from the list on the study guide.

1) Find the additive inverse (opposite) of -9 ___9___

2) Find the absolute value of 7 ___7___ $|7|$

3) Find the opposite of -12 ___12___

4) Give two integers that have an absolute value of 10 ___-10 and 10___ $|-10| = 10$, $|10| = 10$

5) Find the median of -1 9 -6 0 -2 ___-1___

-6 -2 -1 0 9

6) Write the related addition problem for -7 - 3 ___-7 + -3___

7) Find the mean of this set of data 9 -1 -5 5 ___2___

$9 + -1 + -5 + 5$ $\quad \frac{8}{4} = 2$

8

8) Multiple Choice Question

Find the value of -x if x = -2 $\quad -(-2)$

2

A) 2 B) -2 C) 4 D) 0