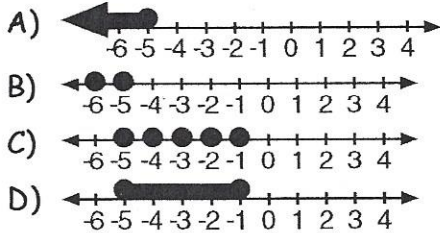Name: _____   Date:_____

Mrs. Roumbos   8A Period_____

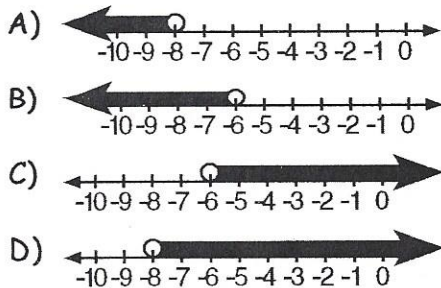Review for Algebra Exam #2
Extra Review #2

1) Determine which graph accurately represents the given set:
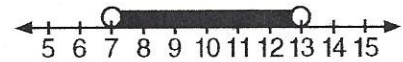
{negative integers greater than or equal to -5}

A)
B)
C)
D)

2) Which of the following is the graph of the solution set for $-2(x-1) > 14$?

A)
B)
C)
D)

3) Solve and graph the solution set for the given inequality in the domain of the set of real numbers:
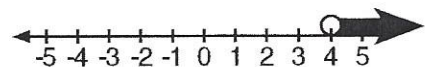
$9 - x \geq 7x + 17$

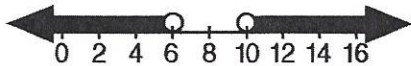4) What interval notation represents the data graphed below?

A) [7,13]   C) [7,13)
B) (7,13]   D) (7,13)

5) What interval notation represents the data graphed below?

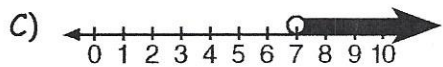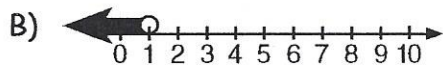

A) (4,∞)   C) (4,∞]
B) (∞,4)   D) (∞,4]

6) Express the given number line in interval notation:

7) If $15 = 2n - 5$ and $-3x - 6 = 30$, what is the product of x and n?

A) -120

B) 40

C) -40

D) 120

8) Which of the following is the graph of the solution set for $5x - 3(x + 2) > 8$?

A)

B)

C)

D)
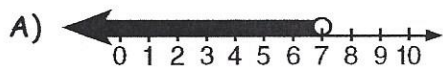
9) Solve the given equation for the variable and check:

$$m + m + 1 = 39 + m$$

10) The graph below represents which of the following inequalities?
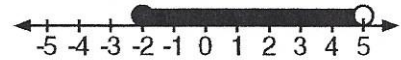
A) $-2 \leq x < 5$

B) $-2 < x \leq 5$

C) $-2 \leq x \leq 5$

D) $-2 < x < 5$

11) The graph below represents which of the following inequalities?

A) $x \geq -2$

B) $x \leq -2$

C) $x > -2$

D) $x < -2$

12) Solve the following literal equations:

A) Solve for x: $ax - b = c$

B) Solve for c: $3(c - 2a) = 5$

13)
A) Solve for z: $bc + z = f$

B) Solve for h: $A = \dfrac{bh}{2}$

14) How many of the following numbers are solutions to $7 - 3x < 35$?

-15, -14, -13, 14, 15

A) 1   C) 3
B) 2   D) 4

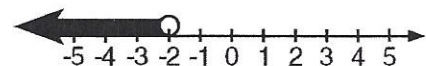15) Determine the solution set and graph for the given inequality:
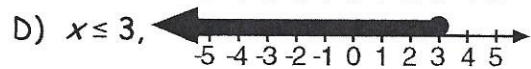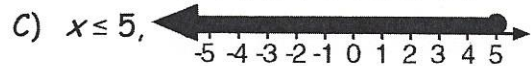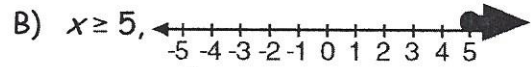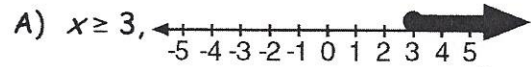
$12 \geq 3x + 3$

A) $x \geq 3$,
-5 -4 -3 -2 -1 0 1 2 3 4 5

B) $x \geq 5$,
-5 -4 -3 -2 -1 0 1 2 3 4 5

C) $x \leq 5$,
-5 -4 -3 -2 -1 0 1 2 3 4 5

D) $x \leq 3$,
-5 -4 -3 -2 -1 0 1 2 3 4 5

16) Which of the following graphs represents the set of natural numbers less than 8 but greater than -2?

A)
-2 -1 0 1 2 3 4 5 6 7 8

B)
-2 -1 0 1 2 3 4 5 6 7 8

C)
-2 -1 0 1 2 3 4 5 6 7 8

D)
-5 -4 -3 -2 -1 0 1 2 3 4 5
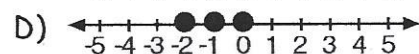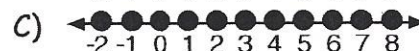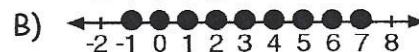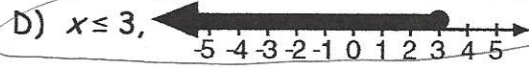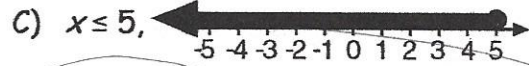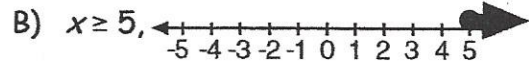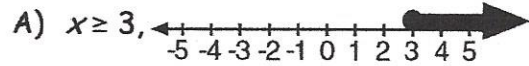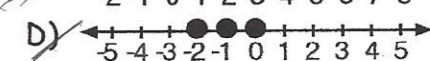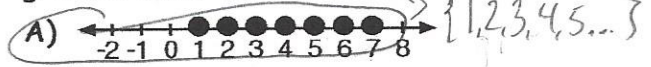
17) What is the value of x if $z = xy + b$?

A) $\dfrac{z + b}{y}$ C) $\dfrac{b - z}{y}$

B) $\dfrac{b + z}{-y}$ D) $\dfrac{z - b}{y}$

18) What is the value of x if $5a - 3x = 2b + 4x$?

A) $\dfrac{5a + 2b}{-7}$

C) $\dfrac{2b - 5a}{7}$

B) $\dfrac{5a - 2b}{7}$

D) $\dfrac{5a + 2b}{7}$

21) The inequality $\dfrac{1}{2}x + 3 < 2x - 6$ is equivalent to

A) $x > -\dfrac{5}{6}$

C) $x < -\dfrac{5}{6}$

B) $x > 6$

D) $x < 6$

Questions 19 through 23 refer to the following:

Solve the given equation for the variable:

22) $5x - 2x + 15 = 2x + 14$

A) -1

C) 29

B) 1

D) -29

19) $43 = 3(x + 1) + 2x$

A) 39

C) 8

B) 7

D) 40

23) $4(2n - 1) - 3n = 2(n + 4)$

A) 3

C) -4

B) $\dfrac{4}{3}$

D) 4

20) $4y + 14 = 5y + 8$

A) -6

C) 22

B) 6

D) $\dfrac{2}{3}$

24) What is the solution for x given the equation $\dfrac{4}{5}x + 23 = -25$?

A) 75

C) -75

B) 60

D) -60

Name: _____

Mrs. Roumbos

Date:_____

8A Period_____

Review for Algebra Exam #2

Review #2

1) Determine which graph accurately represents the given set:
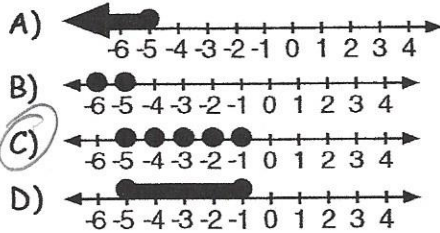
whole #'s

{negative integers greater than or equal to -5}

A)
-6 -5 -4 -3 -2 -1 0 1 2 3 4

B)
-6 -5 -4 -3 -2 -1 0 1 2 3 4

C)
-6 -5 -4 -3 -2 -1 0 1 2 3 4

D)
-6 -5 -4 -3 -2 -1 0 1 2 3 4

2) Which of the following is the graph of the solution set for $-2(x-1) > 14$?

A)
-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0

B)
-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0

C)
-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0

D)
-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0

$-2(x-1) > 14$

$-2x + 2 > 14$

$\quad -2 \quad -2$

$\dfrac{-2x > 12}{-2 \quad -2}$

$x < -6$

3) Solve and graph the solution set for the given inequality in the domain of the set of real numbers:

$9 - x \geq 7x + 17$

$+x \quad +x$

$9 \geq 8x + 17$

$-17 \qquad -17$

$\dfrac{-8}{8} \geq \dfrac{8x}{8}$

$-1 \geq x$ or

$x \leq -1$

-2 -1 0 1

4) What interval notation represents the data graphed below?

5 6 7 8 9 10 11 12 13 14 15

A) [7,13]   C) [7,13)

B) (7,13]   D) (7,13)

5) What interval notation represents the data graphed below?

-5 -4 -3 -2 -1 0 1 2 3 4 5

A) (4,∞)   C) (4,∞]

B) (∞,4)   D) (∞,4]

6) Express the given number line in interval notation:

$$(-\infty, 6) \cup (10, \infty)$$

7) If $15 = 2n - 5$ and $-3x - 6 = 30$, what is the product of x and n?

A) -120
B) 40
C) -40
D) 120

$15 = 2n - 5$
$+5 \quad +5$
$\dfrac{20}{2} = \dfrac{2n}{2}$
$n = 10$

$-3x - 6 = 30$
$+6 \quad +6$
$\dfrac{-3x}{-3} = \dfrac{36}{-3}$
$x = -12$

$(10)(-12) = -120$

8) Which of the following is the graph of the solution set for $5x - 3(x + 2) > 8$?

A)
B)
C)
D)

$5x - 3(x + 2) > 8$
$5x - 3x - 6 > 8$
$2x - 6 > 8$
$+6 \quad +6$
$\dfrac{2x}{2} > \dfrac{14}{2}$
$x > 7$

9) Solve the given equation for the variable and check:

$$m + m + 1 = 39 + m$$

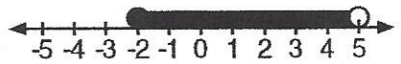$2m + 1 = 39 + m$
$-m \qquad -m$

$m + 1 = 39$
$-1 \quad -1$

$m = 38$

Chk
$m + m + 1 = 39 + m$
$38 + 38 + 1 = 39 + 38$
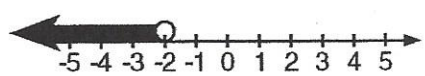$77 = 77$ ✓

10) The graph below represents which of the following inequalities?

A) $-2 \le x < 5$
B) $-2 < x \le 5$
C) $-2 \le x \le 5$
D) $-2 < x < 5$

11) The graph below represents which of the following inequalities?

A) $x \ge -2$
B) $x \le -2$
C) $x > -2$
D) $x < -2$

12) Solve the following literal equations:

A) Solve for x: $ax - b = c$

$$\frac{ax}{a} = \frac{c+b}{a}$$

$$\boxed{x = \frac{c+b}{a}}$$

B) Solve for c: $3(c - 2a) = 5$

$$3c - 6a = 5$$
$$+6a \quad +6a$$
$$\frac{3c = 5 + 6a}{3} \quad \frac{}{3}$$

$$\boxed{c = \frac{5 + 6a}{3}}$$

13)
A) Solve for z: $bc + z = f$

$$-bc \qquad -bc$$

$$\boxed{z = f - bc}$$

B) Solve for h: $A = \frac{bh}{2}(2)$

$$\frac{2A}{b} = \frac{bh}{b} \qquad \boxed{h = \frac{2A}{b}}$$

14) How many of the following numbers are solutions to $7 - 3x < 35$?

-15, -14, -13, (14) 15

A) 1
B) 2
C) 3
D) 4

$$7 - 3x < 35$$
$$-7 \qquad -7$$

$$\frac{-3x < 28}{-3} \quad \frac{}{-3}$$

$$x > -9\tfrac{1}{3}$$

15) Determine the solution set and graph for the given inequality:

$12 \geq 3x + 3$

A) $x \geq 3$,

B) $x \geq 5$,

C) $x \leq 5$,

D) $x \leq 3$,

$$12 \geq 3x + 3$$
$$-3 \qquad -3$$

$$\frac{9}{3} \geq \frac{3x}{3}$$

$$3 \geq x \quad \text{or} \quad x \leq 3$$

16) Which of the following graphs represents the set of natural numbers less than 8 but greater than -2?

A) $\{1, 2, 3, 4, 5...\}$

B)

C)

D)

17) What is the value of x if $z = xy + b$?

A) $\dfrac{z + b}{y}$

B) $\dfrac{b + z}{-y}$

C) $\dfrac{b - z}{y}$

D) $\dfrac{z - b}{y}$

$$z = xy + b$$
$$-b \qquad -b$$

$$\frac{z - b}{y} = \frac{xy}{y}$$

$$x = \frac{z - b}{y}$$

18) What is the value of x if $5a - 3x = 2b + 4x$?

A) $\dfrac{5a + 2b}{-7}$

B) $\dfrac{5a - 2b}{7}$

C) $\dfrac{2b - 5a}{7}$

D) $\dfrac{5a + 2b}{7}$

$5a - 3x = 2b + 4x$
$\underline{+3x \qquad\qquad +3x}$
$5a = 2b + 7x$
$\underline{-2b \quad -2b}$
$\dfrac{5a - 2b}{7} = \dfrac{7x}{7}$

$x = \dfrac{5a - 2b}{7}$

Questions 19 through 23 refer to the following:

Solve the given equation for the variable:

19) $43 = 3(x + 1) + 2x$

A) 39
B) 7
C) 8
D) 40

$43 = 3x + 3 + 2x$
$43 = 5x + 3$
$\underline{-3 \qquad -3}$
$\dfrac{40}{5} = \dfrac{5x}{5}$
$x = 8$

20) $4y + 14 = 5y + 8$

A) -6
B) 6
C) 22
D) $\dfrac{2}{3}$

$4y + 14 = 5y + 8$
$\underline{-4y \qquad -4y}$
$14 = y + 8$
$\underline{-8 \qquad -8}$
$6 = y$

21) The inequality $\dfrac{1}{2}x + 3 < 2x - 6$ is equivalent to

A) $x > -\dfrac{5}{6}$

B) $x > 6$

C) $x < -\dfrac{5}{6}$

D) $x < 6$

$\frac{1}{2}x + 3 < 2x - 6$
$\underline{-\frac{1}{2}x \qquad -\frac{1}{2}x}$
$3 < 1\frac{1}{2}x - 6$
$\underline{+6 \qquad\qquad +6}$
$\dfrac{9}{1\frac{1}{2}} < \dfrac{1\frac{1}{2}x}{1\frac{1}{2}}$

$6 < x$ or $x > 6$

22) $5x - 2x + 15 = 2x + 14$

A) -1
B) 1
C) 29
D) -29

$5x - 2x + 15 = 2x + 14$
$3x + 15 = 2x + 14$
$\underline{-2x \qquad\quad -2x}$
$x + 15 = 14$
$\underline{-15 \quad -15}$
$x = -1$

23) $4(2n - 1) - 3n = 2(n + 4)$

A) 3

B) $\dfrac{4}{3}$

C) -4

D) 4

$4(2n - 1) - 3n = 2(n + 4)$
$8n - 4 - 3n = 2n + 8$
$5n - 4 = 2n + 8$
$\underline{-2n \qquad -2n}$
$3n - 4 = 8$
$\underline{+4 \quad +4}$
$\dfrac{3n}{3} = \dfrac{12}{3}$
$n = 4$

24) What is the solution for x given the equation $\dfrac{4}{5}x + 23 = -25$?

A) 75
B) 60
C) -75
D) -60

$\frac{4}{5}x + 23 = -25$
$\underline{\quad -23 \quad -23}$
$\left(\dfrac{5}{4}\right)\dfrac{4}{5}x = -48\left(\dfrac{5}{4}\right)$
$x = -60$