Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve the equation.

1) $5m + 6 + 2(2m - 5) = 5(m + 5)$ 1) _____

A) $\left\{\dfrac{21}{4}\right\}$ B) $\left\{\dfrac{29}{14}\right\}$ C) $\left\{\dfrac{41}{4}\right\}$ D) $\left\{\dfrac{29}{4}\right\}$

Decide whether the equation is conditional, an identity, or a contradiction. Give the solution set.

2) $2(2g + 28) - 4g - 56 = 0$ 2) _____

A) Conditional; {0} B) Identity; {all real numbers}

C) Conditional; {2} D) Contradiction; ∅

Solve the formula for the specified variable.

3) $P = 2L + 2W$ for W 3) _____

A) $W = d - 2L$ B) $W = P - L$ C) $W = \dfrac{P - L}{2}$ D) $W = \dfrac{P - 2L}{2}$

Decide whether the following is an expression or an equation.

4) $2(2z - 5) + 3(z + 4) = 12$ 4) _____

A) Expression B) Equation

Solve the mixture problem.

5) A merchant has coffee worth $3 a pound that she wishes to mix with 50 pounds of coffee worth $9 5) _____
a pound to get a mixture worth $8 a pound. How many pounds of the $3 coffee should be used?
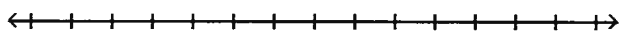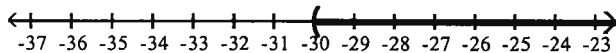
A) 60 lb B) 10 lb C) 5 lb D) 30 lb

Solve the inequality. Give the solution set in both interval and graph forms.
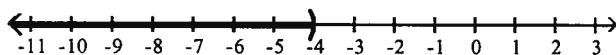
6) $-6(4a - 3) < -30a - 6$

6) _____

$$\longleftarrow \mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+}\mathrel{+} \longrightarrow$$

A) $(-30, \infty)$

$$\longleftarrow \quad -37\ -36\ -35\ -34\ -33\ -32\ -31\ -30\ -29\ -28\ -27\ -26\ -25\ -24\ -23 \longrightarrow$$

B) $(-\infty, -4)$

$$\longleftarrow \quad -11\ -10\ -9\ -8\ -7\ -6\ -5\ -4\ -3\ -2\ -1\ 0\ 1\ 2\ 3 \longrightarrow$$

C) $(-4, \infty)$

$$\longleftarrow \quad -11\ -10\ -9\ -8\ -7\ -6\ -5\ -4\ -3\ -2\ -1\ 0\ 1\ 2\ 3 \longrightarrow$$

D) $(-\infty, -30)$

$$\longleftarrow \quad -37\ -36\ -35\ -34\ -33\ -32\ -31\ -30\ -29\ -28\ -27\ -26\ -25\ -24\ -23 \longrightarrow$$
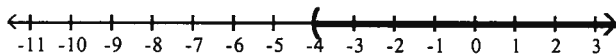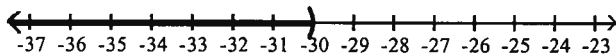
Solve the equation.

7) $|4m + 5| = 6$

7) _____

A) $\left\{ \dfrac{1}{4}, -\dfrac{11}{4} \right\}$ 　　 B) $\left\{ -\dfrac{1}{4}, \dfrac{11}{4} \right\}$ 　　 C) $\emptyset$ 　　 D) $\left\{ \dfrac{1}{5}, -\dfrac{11}{5} \right\}$

Find the midpoint of the segment with the given endpoints.

8) $(-9, -9)$ and $(6, 9)$

8) _____

A) $(-15, -18)$ 　　 B) $\left(-\dfrac{15}{2}, -9 \right)$ 　　 C) $\left(-\dfrac{3}{2}, 0 \right)$ 　　 D) $(-3, 0)$
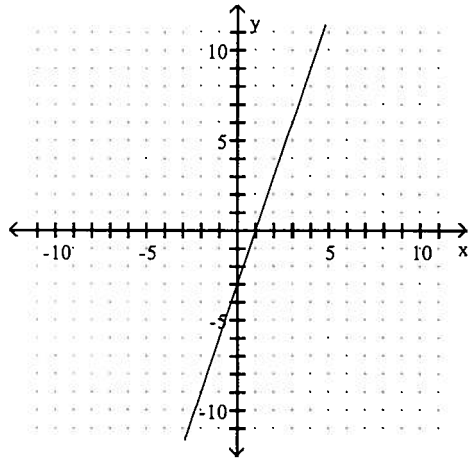
Find the slope of the line.

9)

A) – 3   B) $-\dfrac{1}{3}$ C) 3   D) $\dfrac{1}{3}$

Decide whether the pair of lines is parallel, perpendicular, or neither.

10) $y + 20 = -4x$ and $4y = 24x - 14$

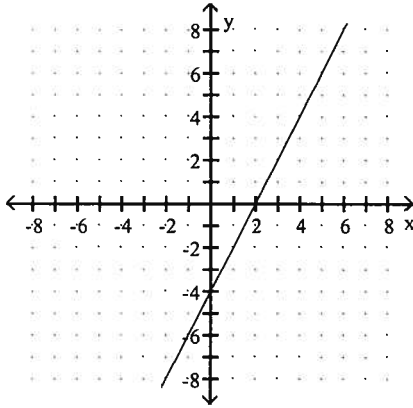   A) Parallel   B) Perpendicular   C) Neither

Choose the graph that matches the equation.
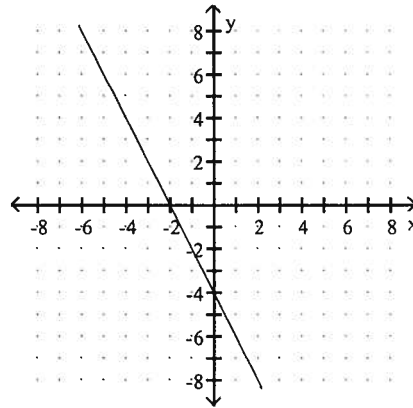
11) $y = 2x - 4$
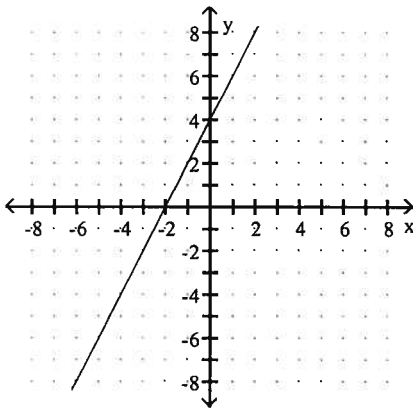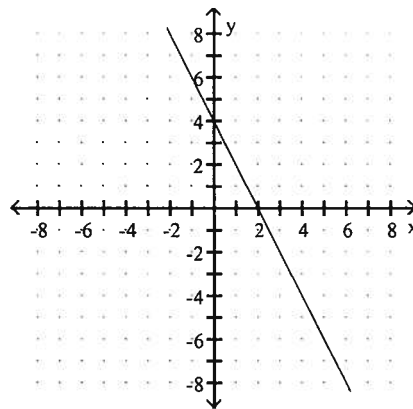
11) _____

A)

B)

C)

D)

Find an equation of the line passing through the two points. Write the equation in standard form.

12) $(-2, -6)$ and $(-7, 0)$

12) _____

A) $6x + 5y = -42$ B) $-6x + 5y = -42$ C) $4x - 7y = 28$ D) $-4x + 7y = 28$

Find an equation of the line satisfying the conditions. Write the equation in slope–intercept form.

13) Through $(-5, -2)$; perpendicular to $-5x - 2y = 27$

13) _____

A) $y = \dfrac{2}{5}x$ B) $y = -\dfrac{5}{2}x - \dfrac{29}{2}$ C) $y = \dfrac{5}{2}x + \dfrac{21}{2}$ D) $y = -\dfrac{2}{5}x - 4$

Decide whether the relation is a function.

14) $\{(-9, 3), (-9, 5), (2, 1), (4, 5), (7, 5)\}$

14) _____

A) Not a function B) Function

Solve the problem.

15) Find $f(-1)$ when $f(x) = 3x^2 + 5x + 6$.

15) _____

A) 14 B) 4 C) 2 D) –8

A-4

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve the system by elimination. If the system is inconsistent or has dependent equations, say so.

16) $x + 4y = 13$
$2x + 3y = 6$

16) _____

Solve the problem.

17) Mrs. Boyd has a desk full of quarters and nickels. If she has a total of 29 coins with a total face value of $3.25, how many of the coins are nickels?
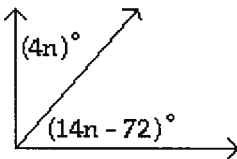
17) _____

18) Bert is 20 kilometers away from Brenda. Both begin to walk toward each other at the same time. Bert walks at 2 kilometers per hour. They meet in 4 hours. How fast is Brenda walking?

18) _____

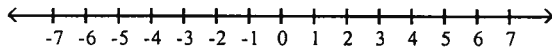19) Find the measures of the complementary angles.

$(4n)°$

$(14n - 72)°$

19) _____

For the compound inequality, give the solution set in both interval and graph forms.

20) $7x - 4 \geq -4$ and $7x - 4 \leq 24$

20) _____

-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7

Name_____

1) _____
2) _____
3) _____
4) _____
5) _____
6) _____
7) _____
8) _____
9) _____
10) _____
11) _____
12) _____
13) _____
14) _____
15) _____
16) _____
17) _____
18) _____
19) _____
20) _____