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

**Solve the problem.**

1) The formula

$$A = \frac{2Tt + Qq}{2T + Q}$$

gives a student's average A after T tests and Q quizzes, where each test counts as 2 quizzes, t is the test average and q is the quiz average. Solve for T.

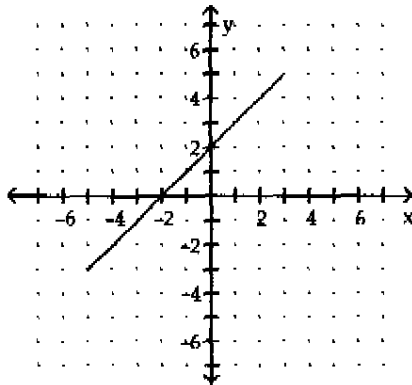    A) $T = \frac{Qq - A}{2A - 2t}$

    B) $T = \frac{2At + QA - Qq}{2t}$

    C) $T = \frac{Qq - QA}{2A - 2t}$

    D) $T = \frac{2t + Qq - QA}{2A}$

1) _____

**For the function represented in the graph, determine the domain or range, as requested.**

2) Find the range.



    A) $\{x|\ -5 \le x \le 3\}$

    B) $\{-3, -2, -1, 0, 1, 2, 3, 4, 5\}$

    C) $\{x|\ -5 \le x \le 5\}$

    D) $\{y|\ -3 \le y \le 5\}$

2) _____

**Choose the ordered pair which is a solution of the inequality.**

3) $2x - 4y < 6$

    A) $(3, -1)$    B) $(2, -2)$    C) $(-1, 1)$    D) $(0, -2)$

3) _____

4) $2x + 4y \ge 8$

    A) $(1, 1)$    B) $(3, 2)$    C) $(0, 0)$    D) $(1, 0)$

4) _____

**Find the function value.**

5) Find $f(a - 4)$ when $f(x) = x^2 + 4$.
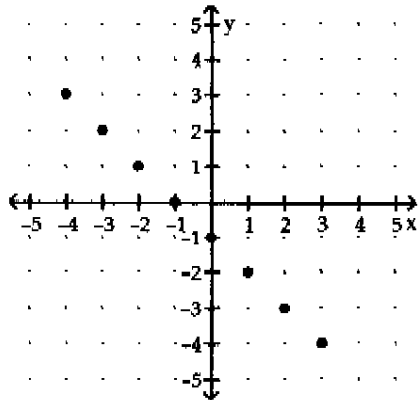
    A) $a^2 - 8a + 16$    B) $a^2 + 0$    C) $a^2 + 16$    D) $a^2 - 8a + 20$

5) _____

1

**For the function represented in the graph, determine the domain or range, as requested.**

6) Find the domain.

6) _____

A) {-5, -4, -3, -2, -1, 0, 1, 2, 3}

B) {x| -4 ≤ x ≤ 4}

C) {x| -3 ≤ x ≤ 3}

D) {-4, -3, -2, -1, 0, 1, 2, 3}

**Classify as equivalent inequalities, equivalent equations, equivalent expressions, or not equivalent.**

7) $\frac{5}{1}g + \frac{1}{1} = 0, 5g + 1 = 0$

7) _____

A) Not equivalent

B) Equivalent expressions

C) Equivalent inequalities

D) Equivalent equations

**Solve the equation.**

8) Let $f(x) = \left| \frac{3x + 5}{3} \right|$. Find all x for which $f(x) = 7$.

8) _____

A) ∅

B) $\left\{ \frac{16}{3}, \frac{26}{3} \right\}$

C) $\left\{ \frac{-26}{3}, \frac{16}{3} \right\}$

D) $\left\{ \frac{-16}{3}, \frac{16}{3} \right\}$

**Graph and write in interval notation.**

9) x < 4 or x < 7

9) _____

A) $(-\infty, 7)$

B) $(4, 7)$
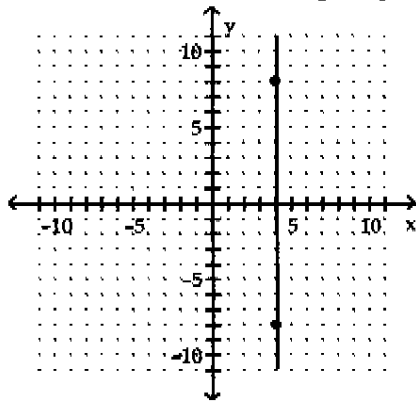
C) $(4, \infty)$

D) $(-\infty, 4) \cup (7, \infty)$

2
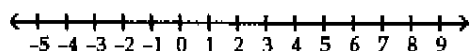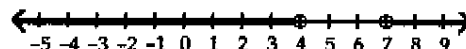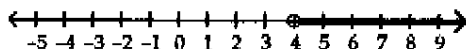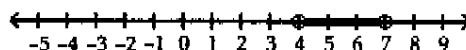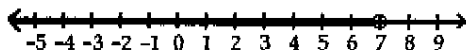
**Provide an appropriate response.**

10) Determine whether the slope is positive, negative, zero or undefined.

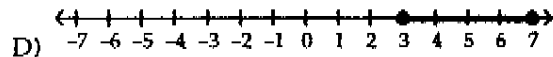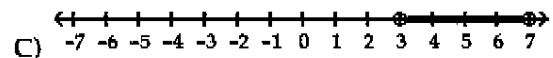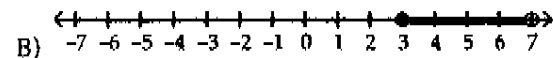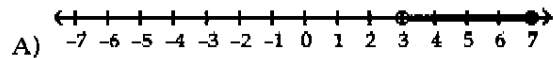   A) Positive       B) Zero       C) Undefined       D) Negative

**Solve the inequality and graph the solution set.**

11) $13 \leq 2x + 7$ and $6x - 2 < 40$
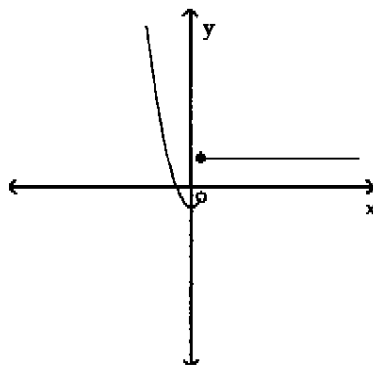
11)



A)



B)



C)



D)
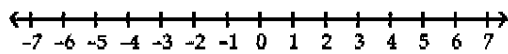
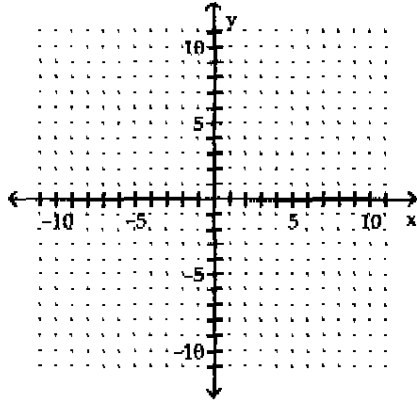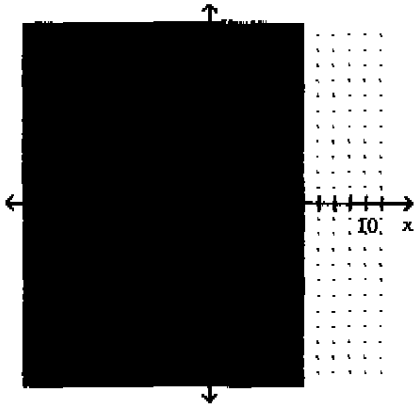**Determine whether the graph is the graph of a function.**

12)

12)



   A) Yes            B) No

3

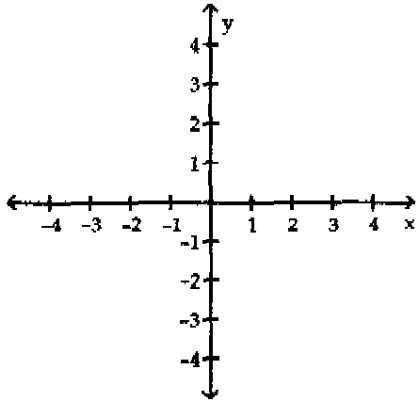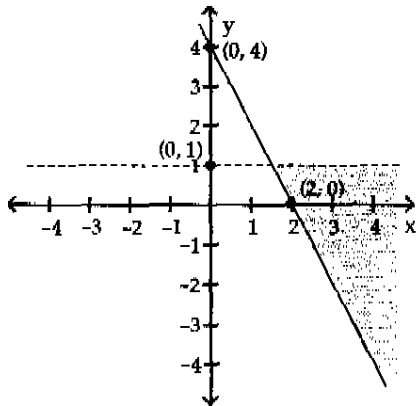**Graph on a plane.**

13) $-7 \le x \le 6$

A)

B)

C)

D)

4
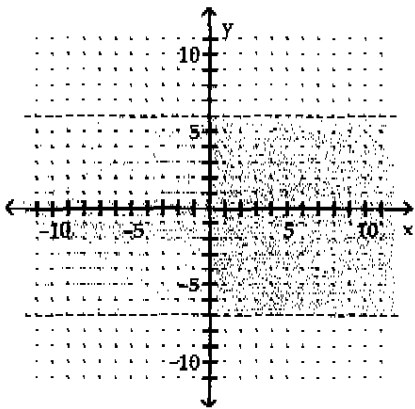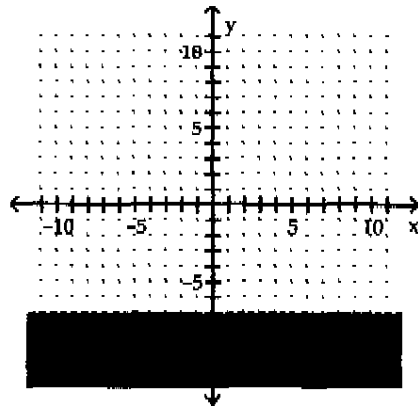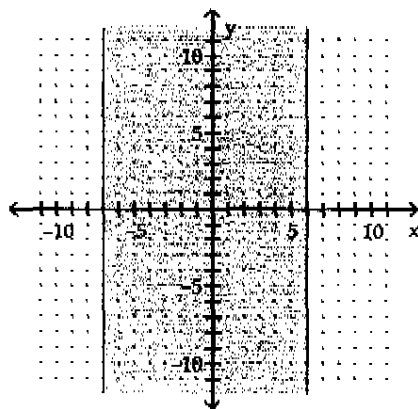
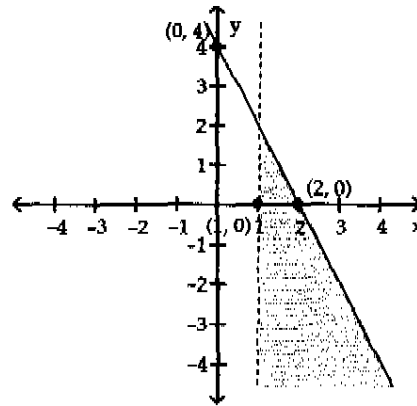**Graph the system of linear inequalities.**

14) $2x + y \geq 4$ and $x - 1 > 0$

A)

B)
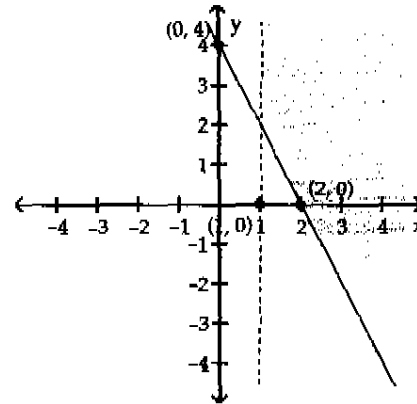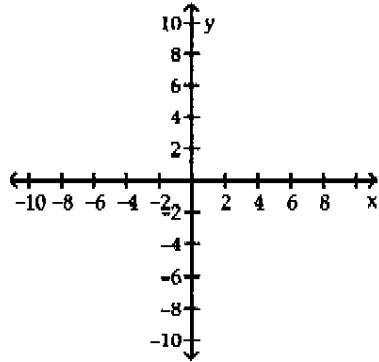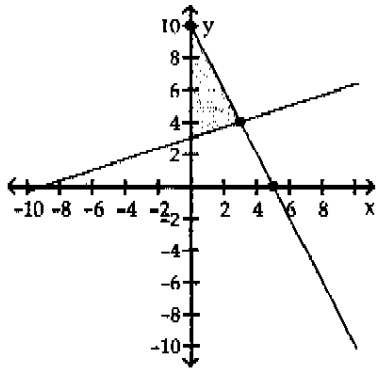
C)
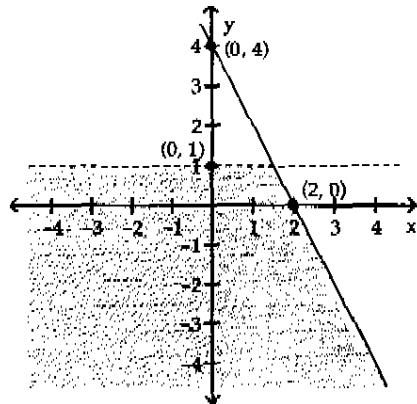
D)

**Graph the system of inequalities. Find the coordinates of the vertices.**

15) $3y - x \leq 9,$
$y + 2x \leq 10,$
$y \geq 0$

A)

$(0, 10) , (3, 4) , (5, 0)$

B)
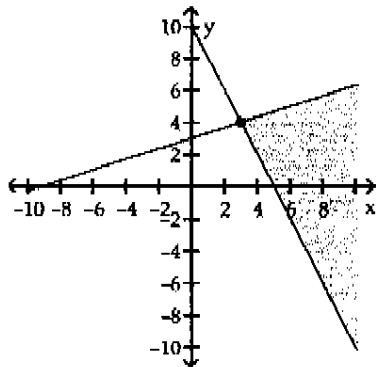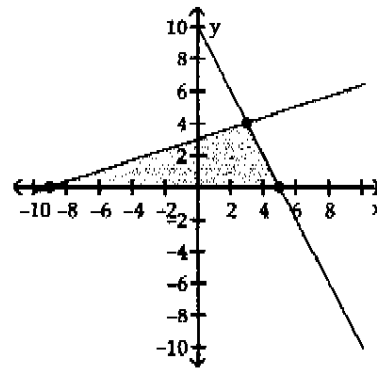
$(-9, 0) , (3, 4) , (5, 0)$

C)

$(3, 4)$

D)

$(-9, 0) , (5, 0)$