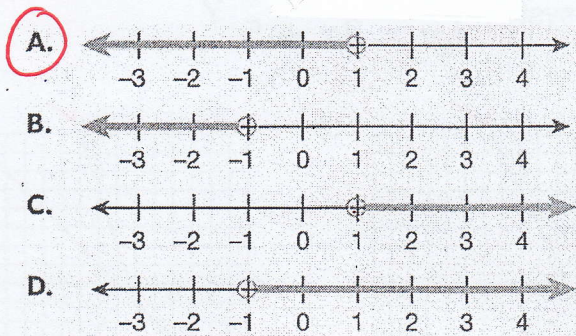


Solve.

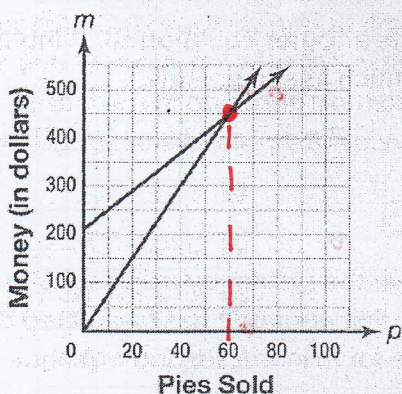
- 1) Which graph shows the solution to the inequality $17 - x > 4x + 12$?



$$17 - x > 4x + 12$$

$$\begin{array}{r} -4x \\ \hline 17 - 5x > 12 \end{array} \quad \begin{array}{r} -5x > -5 \\ \hline x < 1 \end{array}$$

- 3) A baker rents space in a commercial kitchen for \$210 per week. For each pie he bakes, he spends \$4 on materials. He charges \$7.50 per pie. The graph below shows the baker's costs and revenues for a week in which he sells p pies.



- 4) Solve $7t + 2 > 6t - 7$.

$$\begin{array}{r} -6t \quad -6t \\ \hline t + 2 > -7 \\ \hline t > -9 \end{array}$$

- 2) Sonya opened a savings account with \$200 and deposits \$10 per week. Brad opened a savings account with \$140 and contributes \$40 per week. After how many weeks will Brad's account balance be twice as much as Sonya's? What will the balance be in each account then?

$$\text{Brad} = 2(\text{Sonya})$$

$$140 + 40x = 2(200 + 10x)$$

$$140 + 40x = 400 + 20x$$

$$20x = 260$$

$$x = 13 \text{ weeks}$$

$$\text{Brad} = 140 + 40(13) = 660$$

$$\text{Sonya} = 200 + 10(13) = 330$$

How many pies must he sell per week to break even?

a) 20

b) 40

c) 60

d) He will never break even.

break even means

cost = revenue

$$5) \text{ Solve } \begin{cases} 3x - 5y = 13 \\ 2x - y = -3 \end{cases} \quad \begin{array}{r} 3x - 5y = 13 \\ -10x + 5y = 15 \\ \hline -7x = 28 \end{array}$$

$$3(-4) - 5y = 13$$

$$-12 - 5y = 13$$

$$\begin{array}{r} +12 \quad +12 \\ \hline -5y = 25 \end{array}$$

$$-5y = 25$$

$$y = -5$$

$$(-4, -5)$$

6) Determine if $(-3, 3)$ is a solution to the following system.

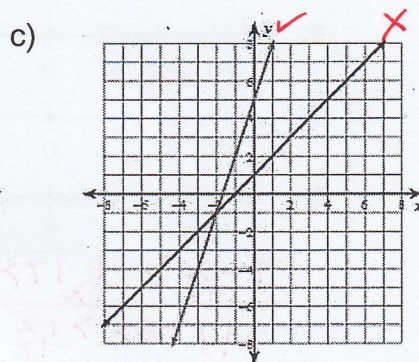
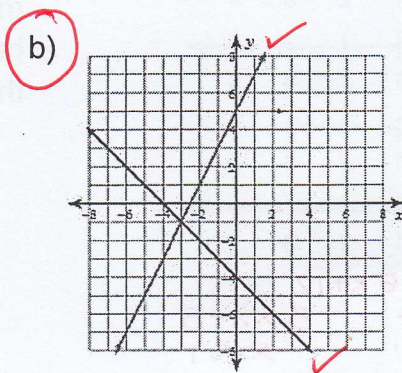
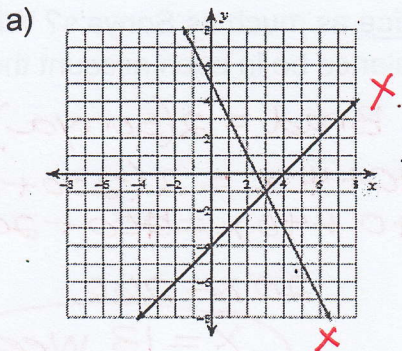
$$\begin{cases} 3x + 7y = 12 \\ 6x - y = -4 \end{cases}$$

$$\begin{aligned} 3(-3) + 7(3) &= 12 \\ -9 + 21 &= 12 \\ 12 &= 12 \checkmark \end{aligned}$$

$$\begin{aligned} 6(-3) - 3 &= -4 \\ -18 - 3 &= -4 \\ -21 &\neq -4 \end{aligned}$$

Not a solution.

7) Which of the following is the graph of the system $\begin{cases} y = -x - 4 \\ y = 2x + 5 \end{cases}$?



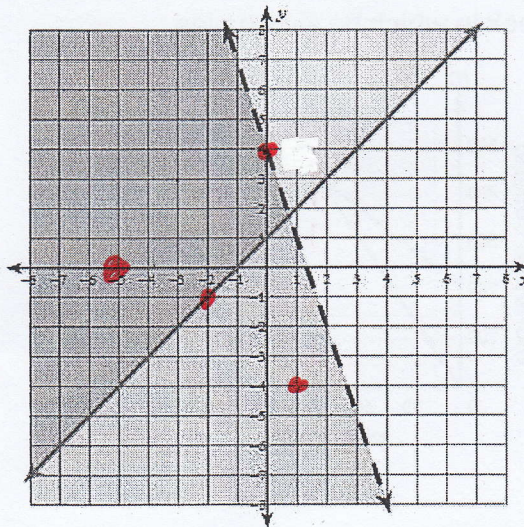
8) Indicate whether each of the following points are solutions to the system of inequalities graphed below.

a) $(-5, 0)$

b) $(1, -4)$ NO

c) $(-2, -1)$ YES on solid line

d) $(0, 4)$ NO on dashed



9) How many solutions does the following system of equations have? How do you know?

$$\begin{cases} x + 3y = 9 \\ 2x + 6y = 18 \\ 3x + 9y = 27 \end{cases}$$

They are multiples of the same equation. So ∞ solutions.

$$\begin{aligned} -6x - 18y &= -54 \\ 6x + 18y &= 54 \\ \hline 0 &= 0 \end{aligned}$$