

Module 7 Lesson 1

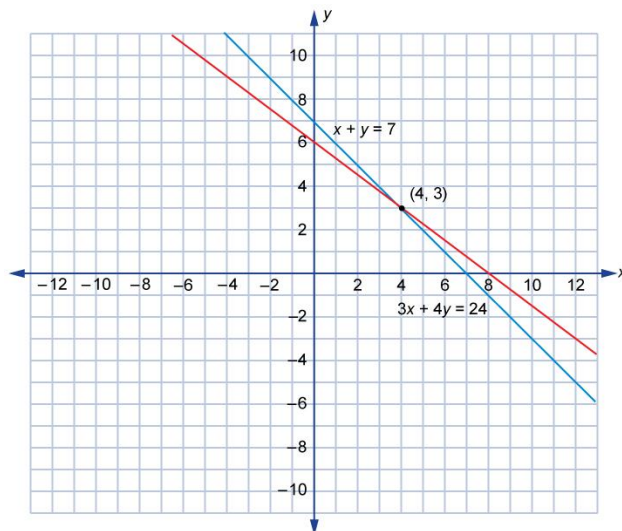
Try This 16 Possible Solutions

TT 16. *Foundations and Pre-calculus Mathematics 10* (Pearson), questions 3, 4, 5, 6, and 8 on page 409

3. The solution is found at the point of intersection.
- a) The solution is $(-4, 2)$.
 - b) The solution is $(2, 3)$.
 - c) The solution is $(1, -3)$.
 - d) The solution is $(-2, -1)$.
4. a) The solution is $(9, -2)$. It is exact because it intersects right where the lines on the graph paper intersect.
- b) The solution is about $(-1.7, 2.7)$. It is approximate because it does not intersect where the graph paper lines intersect.

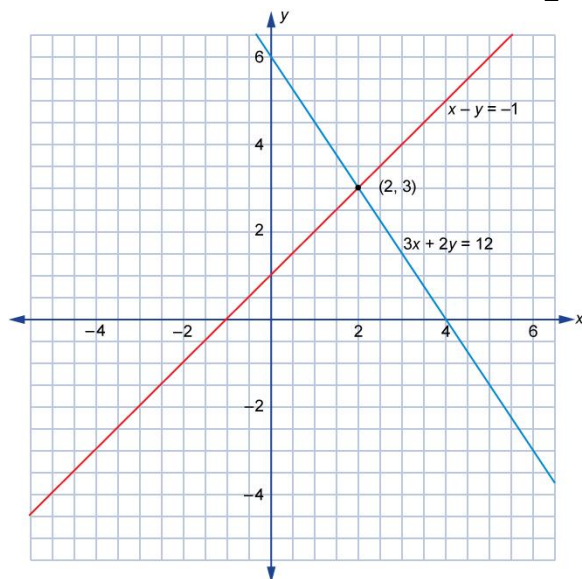
5. a) i) $x + y = 7$
 $y = -x + 7$

$$\begin{aligned} 3x + 4y &= 24 \\ 4y &= -3x + 24 \\ \frac{4y}{4} &= \frac{-3x}{4} + \frac{24}{4} \\ y &= -\frac{3}{4}x + 6 \end{aligned}$$



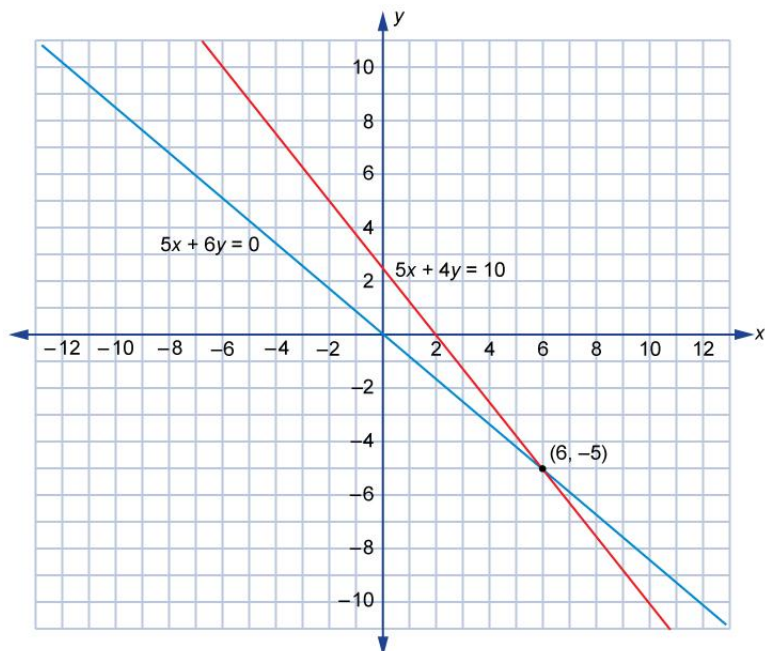
ii) $x - y = -1$
 $-y = -x - 1$
 $y = x + 1$

$3x + 2y = 12$
 $2y = -3x + 12$
 $\frac{2y}{2} = \frac{-3x}{2} + \frac{12}{2}$
 $y = -\frac{3}{2}x + 6$



iii) $5x + 4y = 10$
 $4y = -5x + 10$
 $\frac{4y}{4} = \frac{-5x}{4} + \frac{10}{4}$
 $y = -\frac{5}{4}x + \frac{5}{2}$

$5x + 6y = 0$
 $6y = -5x$
 $\frac{6y}{6} = \frac{-5x}{6}$
 $y = -\frac{5}{6}x$



iv) $x + 2y = -1$

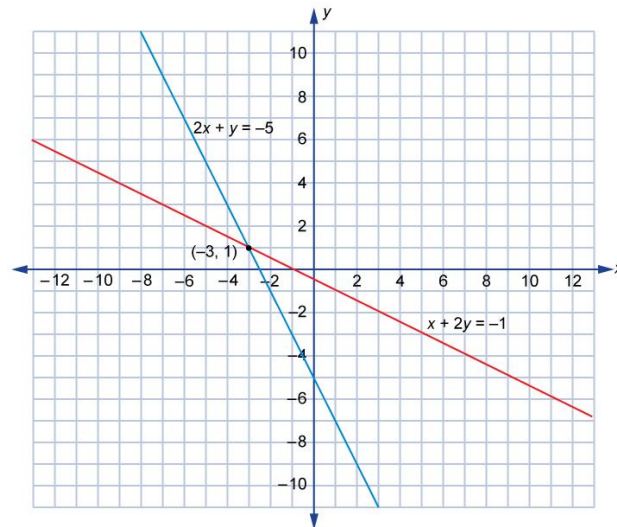
$$2y = -x - 1$$

$$\frac{2y}{2} = \frac{-x}{2} - \frac{1}{2}$$

$$y = -\frac{1}{2}x - \frac{1}{2}$$

$$2x + y = -5$$

$$y = -2x - 5$$



6. Graphing the system:

$$3x - y = 1149$$

$$-y = -3x + 1149$$

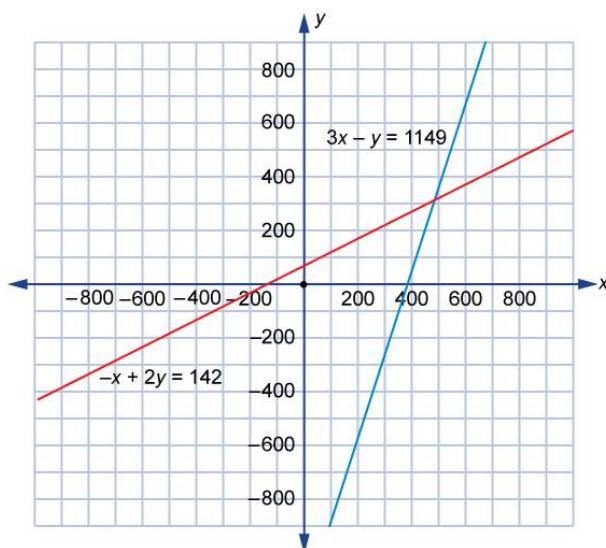
$$y = 3x - 1149$$

$$-x + 2y = 142$$

$$2y = x + 142$$

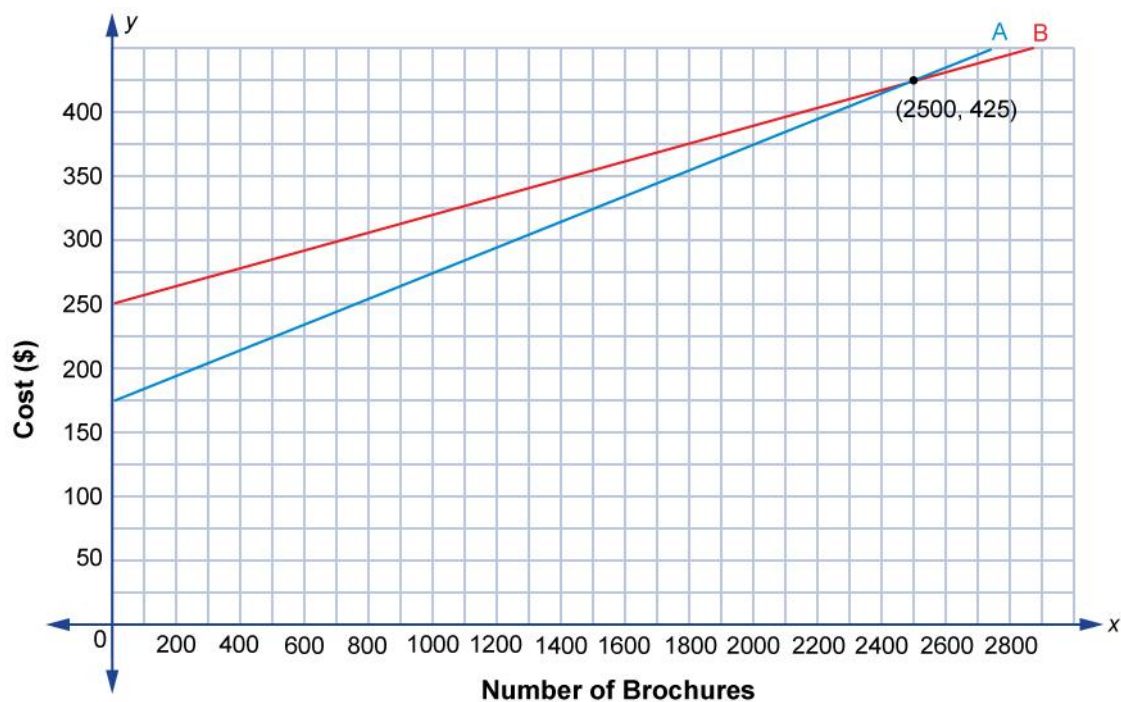
$$\frac{2y}{2} = \frac{x}{2} + \frac{142}{2}$$

$$y = \frac{1}{2}x + 71$$



His solution is approximate since the graphs do not intersect at exactly (500, 300).

8. a) The graph should look like the following:



b) i) Looking at the graph, 2500 brochures must be printed for the cost to be \$425 for both companies.

ii) It is cheaper to use Company A when the print order is less than 2500 brochures.