

Math 10

Lesson 5-1 Answers

Lesson Questions

Question 1

$$2x + 3y = 3$$

$$3y = -2x + 3$$

$$y = -\frac{2}{3}x + 1$$

$$x - y = 4$$

$$y = x - 4$$

Point of intersection is (3, -1)

Check

$$2x + 3y = 3$$

$$x - y = 4$$

$$2(3) + 3(-1) = 3$$

$$3 - (-1) = 4$$

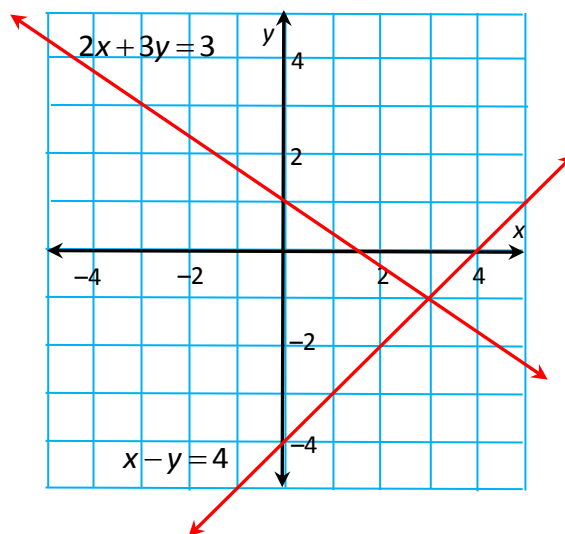
$$6 - 3 = 3$$

$$3 + 1 = 4$$

$$3 = 3$$

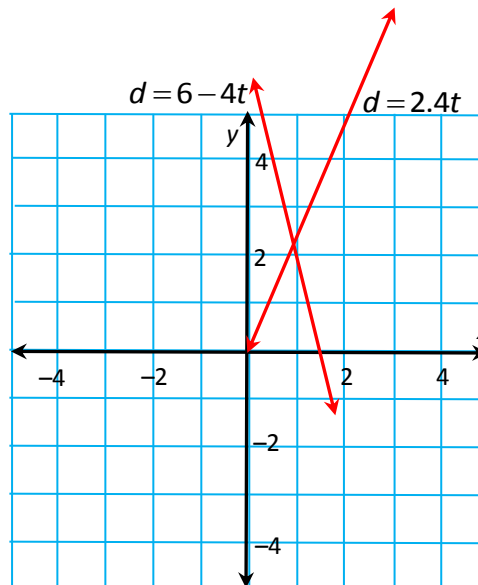
$$4 = 4$$

The solution is $x = 3$ and $y = -1$



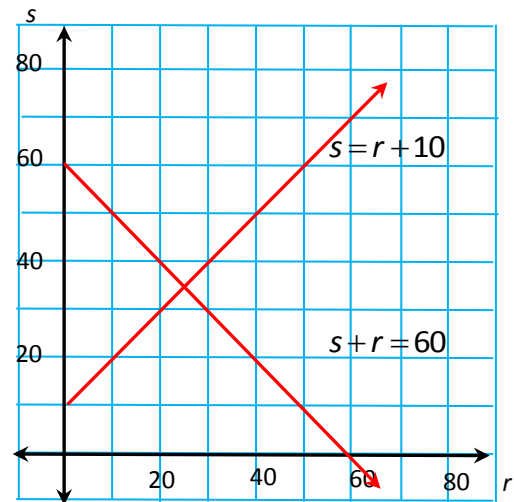
Question 2

They meet after travelling for approximately 0.9 h and at approximately 2.2 km from Tyrell's cabin.



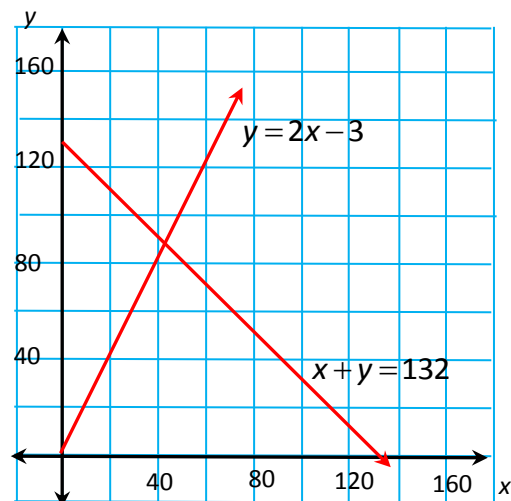
Question 3

- a) Let r be the received messages and s be sent messages. From the first sentence:
 $s + r = 60$
 From the second sentence:
 $s = r + 10$
- b) According to the graph he sent 35 and received 25



Question 4

- a) Let x be the time for the opening act and y the main act. From the 1st sentence:
 $y = 2x - 3$
 From the 2nd sentence:
 $x + y = 132$
- b) The solution is $(45, 87)$. The opening act was 45 minutes long and the main act was 87 minutes long.

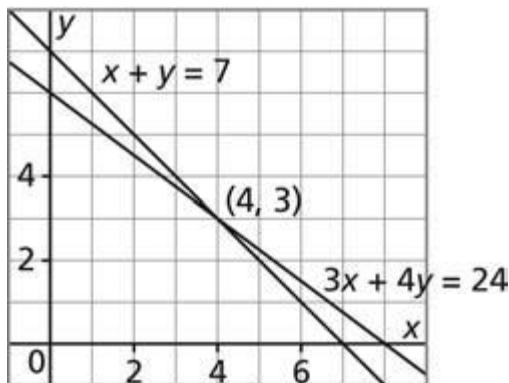


Assignment

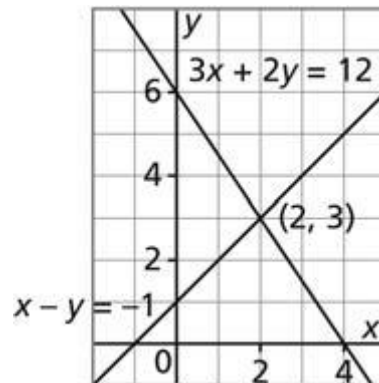
- Determine the solution of each linear system.
 - $(-4, 2)$
 - $(2, 3)$
 - $(1, -3)$
 - $(-2, -1)$

- Solve each linear system.

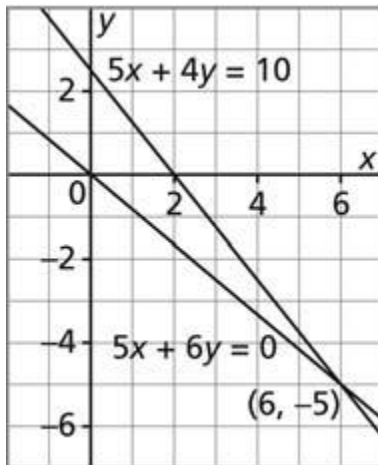
a) $x = 4, y = 3$



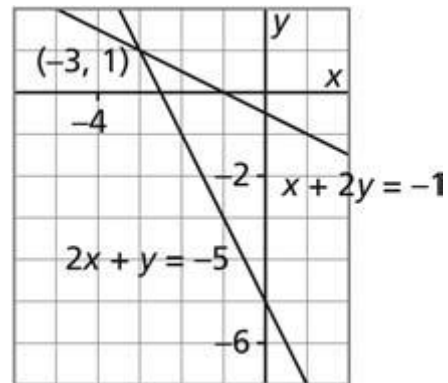
b) $x = 2, y = 3$



c) $x = 6, y = -5$



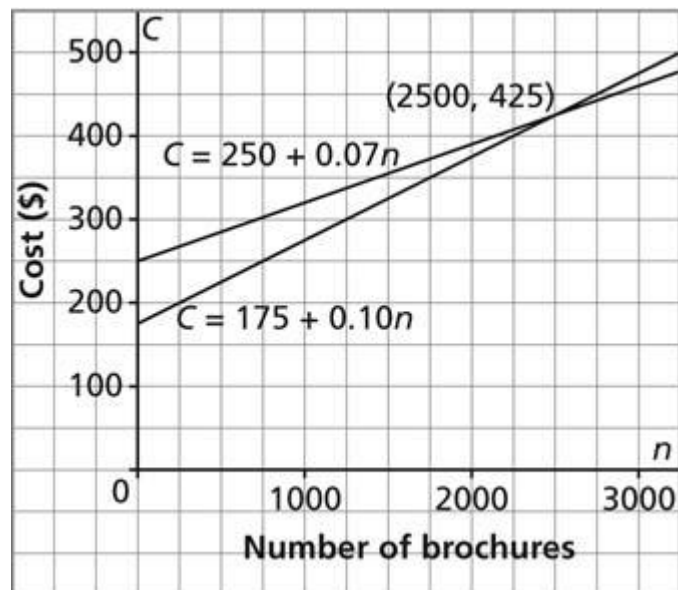
d) $x = -3, y = 1$



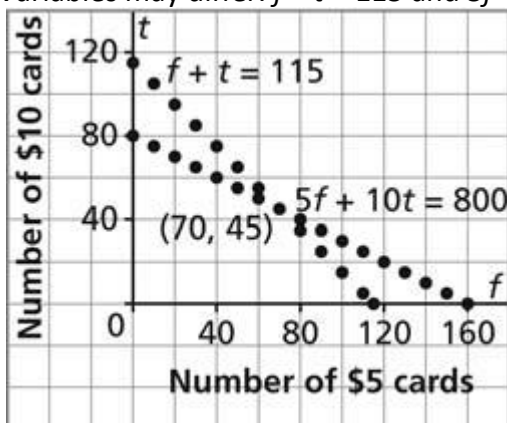
3.

b) i) 2500 brochures

ii) It is cheaper to use Company A when fewer than 2500 brochures are printed.



4. Variables may differ. $f + t = 115$ and $5f + 10t = 800$

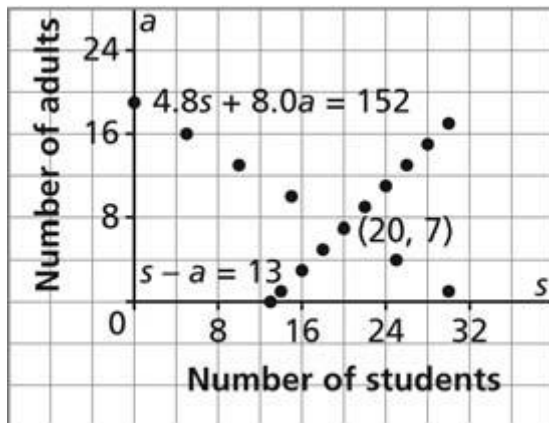


Seventy \$5 gift cards and forty-five \$10 gift cards; exact

5.

Variables may differ.

$$4.8s + 8.0a = 152 \text{ and } s - a = 13$$



7 adults and 20 students; exact

6. First, graphing takes a long time to do, even on a graphing calculator. Second, neat looking graphs are difficult to construct. Third, the answers are often just approximate. Finding the exact answer is difficult.

7. Variables may differ.

a) $0.05c + 0.10b = 140$ and $c + b = 2000$

8. a) iii; x dollars represents the cost of a jacket and y dollars represents the cost of a sweater.
 b) i; x represents the length in feet and y represents the width in feet.
 c) ii; x represents the number of chapatti breads sold and y represents the number of naan breads sold.

9. Variables may differ.

a) $2s + 2l = 20$ and $s + 3l = 22$

10. Variables may differ.

a) $2l + s = 24$ and $l - s = 6$