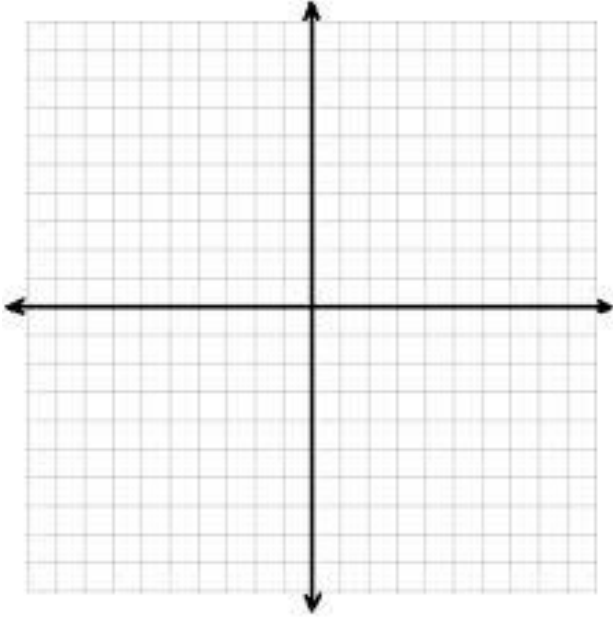


Chapter 1 Review

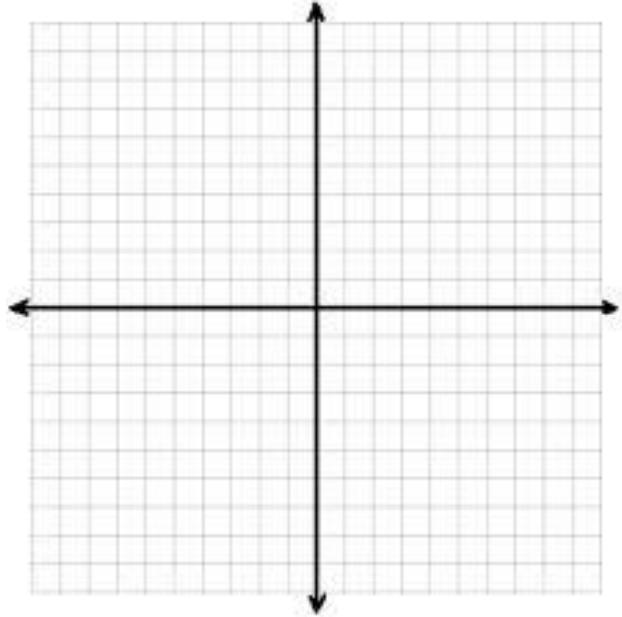
1) Graph each set of lines to find the point of intersection

a) $y = x - 5$ and $y = -x + 3$



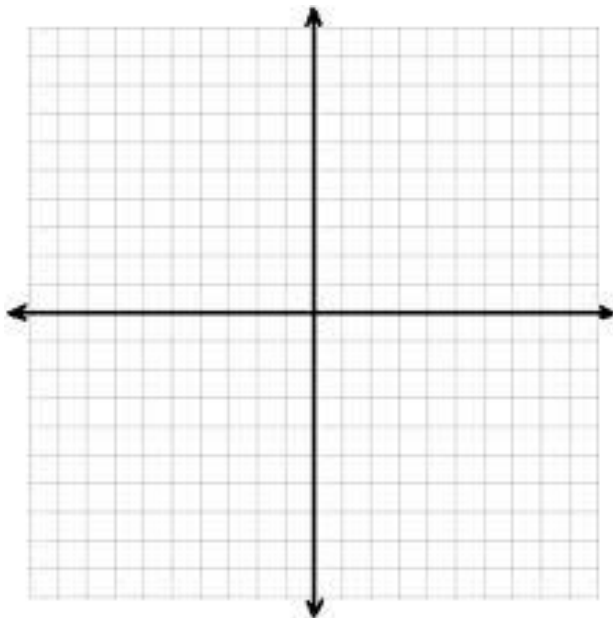
POI: _____

b) $y = -2x + 5$ and $y = \frac{1}{2}x - 5$.



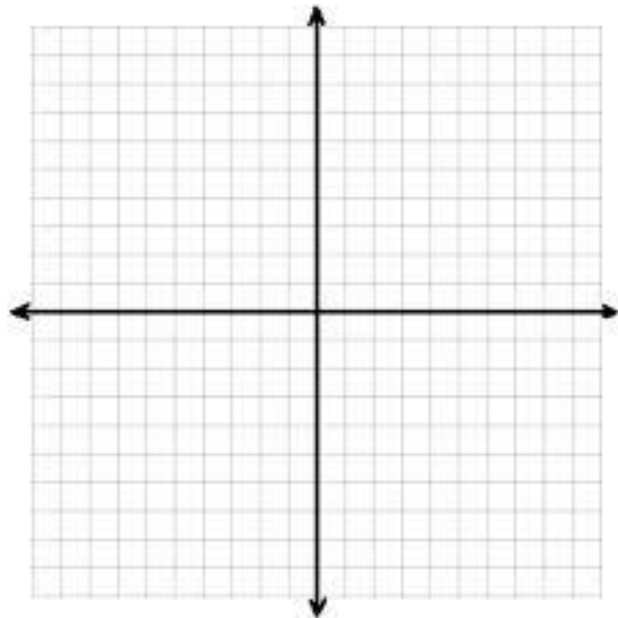
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c) $y = 3x + 8$ and $x + 2y = 2$



POI: _____

d) $3x - 2y = -8$ and $x - 2y = -4$



POI: _____

2) Solve each linear system using the method of substitution.

a) $2x + y = 7$
 $3x - 2y = 21$

b) $y = 2x + 4$
 $x - 4y = -9$

POI: _____

POI: _____

c) $3s + 5t = 2$
 $s + 4t = -4$

d) $3m - 6n = 1$
 $m + 3n = 2$

POI: _____

POI: _____

e) $y - 2 = -2x$
 $3x + 2y = 5$

f) $2x - 3y = 6$
 $2x - y = 7$

POI: _____

POI: _____

3)

Which two equations are equivalent?

- A** $y = 2x + 6$
- B** $2y = x + 12$
- C** $3y = x + 2$
- D** $2y = 4x + 12$

Explain why:

4)

Which of the following equations is equivalent to $y = \frac{2}{3}x + \frac{1}{5}$?

- A** $y = 2x + 1$
- B** $3y = 2x + 1$
- C** $15y = 10x + 3$
- D** $10x - 15y + 5 = 0$

Explain why:

5)

A linear system is given.

$$\begin{aligned} x - y &= 7 && \textcircled{1} \\ 3x + 2y &= -5 && \textcircled{2} \end{aligned}$$

Explain why the following is an equivalent linear system.

$$\begin{aligned} 3x - 3y &= 21 && \textcircled{3} \\ 12x + 8y &= -20 && \textcircled{4} \end{aligned}$$

6) Solve each linear system using the method of elimination.

b) $x - y = 14$
 $2x + 5y = -7$

b) $2x - 3y = -4$
 $3x + y = 5$

POI: _____

POI: _____

c) $3x + 4y = 17$
 $7x - 2y = 17$

d) $2x + 5y = 18$
 $3x + 5y - 17 = 0$

POI: _____

POI: _____

e) $3x + 2y = 34$
 $5x - 3y = -13$

f) $5x + 2y = 5$
 $2x + 3y = 13$

POI: _____

POI: _____

7) The public golf course runs a junior league with a registration fee of \$200 and a cost of \$25 per round played. To stay competitive, the private golf club in the same town offers a junior league with a registration fee of \$250, but only \$20 per round played.

a) Write linear equations to represent both junior leagues.

c) Solve the linear system.

c) Interpret the solution.

d) Which league should each golfer join?

i) MaeLing plans to play 16 rounds in the league.

ii) Jacob plans to play 8 rounds in the league.

8) A physics contest has 30 multiple choice questions. A correct answer gains 4 points, while a wrong answer loses 1 point. Rolly answered every question and scored 55 points. How many questions did he answer correctly?

9) The cost to rent a car is based on the number of days the car is rented and the number of kilometres it is driven. The cost for a 1-day rental and 240 km driven is \$39. The cost for a 5-day rental and 900 km driven is \$165. Find the cost per day and the cost per kilometre.

10) Petr has \$5000 invested in two plans. One plan pays 5% simple interest per year and the other pays 8%. At the end of the year, Petr receives a total of \$340 in interest. How much did he invest in each plan?

Extra Practice

Matching

Match the words or phrases with their definitions.

- | | |
|------------------------------|--------------------------------|
| a. linear system | f. equivalent linear equations |
| b. equivalent linear systems | g. graph |
| c. method of substitution | h. intercept |
| d. slope | i. method of elimination |
| e. point of intersection | |

- _____ 13. Where two lines meet
- _____ 14. Consists of at least two lines
- _____ 15. The point where a line crosses the x - or y -axis
- _____ 16. Two linear systems that have the same solutions
- _____ 17. A solution method in which one variable is replaced
- _____ 18. This is equal for two lines that are parallel
- _____ 19. When two linear equations are added or subtracted to solve a linear system
- _____ 20. Two linear equations that have the same graph

Short Answer

21. Find the point of intersection of the lines $y = -\frac{5}{2}x$ and $y = -x + 3$ by graphing.
22. Lee has \$200 and would like to buy 10 books as gifts. A paperback book costs \$14 and a hard cover costs \$24. Graphically find the number of each kind of book that Lee should buy to spend all of his \$200.
23. The cost of admission to Fantasy World theme park totalled \$120.50 for a group of 11 children and 2 adults. The admission totalled \$100 for another group consisting of 7 children and 3 adults.
- (a) Write a linear system to model this problem.
- (b) What is the admission cost for an adult and for a child?