

Assignment

Date _____ Period _____

Solve each system using any method.

1) $3x - y = 7$
 $3x + 4y = 32$

2) $x + y = -7$
 $x + y = -6$

3) $x - 3y = 15$
 $5x + 9y = 27$

4) $3x - y = -3$
 $3x - y = -8$

5) $-2x + 3y = -2$
 $-3x - 7y = 20$

6) $3x + 3y = -15$
 $7x + 3y = -23$

7) $-7x - y = -3$
 $6x + 5y = -14$

8) $-5x + 5y = 10$
 $-7x + 8y = 11$

9) $6x + 3y = 15$
 $y = -7$

10) $-x + 4y = 20$
 $-4x - 8y = 8$

11) $-4x - 6y = -2$
 $x - 8y = 10$

12) $2x + y = -13$
 $3x - 3y = 12$

13) $3x - 6y = 21$
 $x + 8y = -23$

14) $x + y = -9$
 $5x - 5y = 5$

15) $x + 4y = 4$
 $-2x - 8y = -6$

16) $6x + 3y = -30$
 $2x + y = -10$

17) $y = 3x$
 $4x + 5y = -19$

18) $6x + 2y = 16$
 $y = -3x + 8$

19) $-8x - 2y = 4$
 $y = -3x - 3$

20) $y = -5x + 9$
 $-x + 7y = -9$

21) $y = 4x + 6$
 $3x - 3y = -18$

22) $5x + 5y = 20$
 $y = -4x + 4$

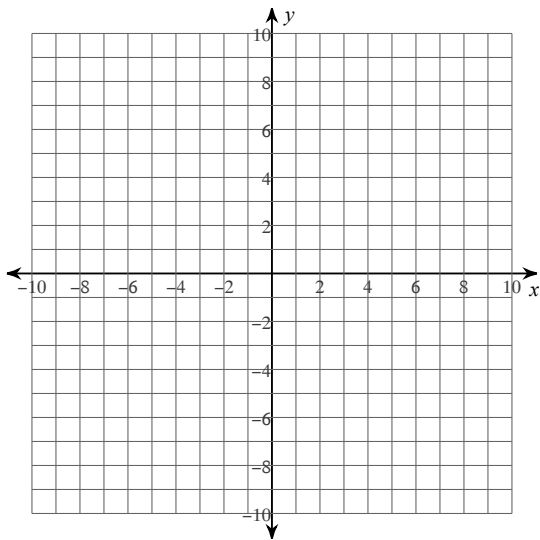
23) When you reverse the digits in a certain two-digit number you increase its value by 18. What is the number if the sum of its digits is 16?

- 24) New York City is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 1 van and 5 buses with 273 students. High School B rented and filled 11 vans and 6 buses with 406 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.
- 25) The senior classes at High School A and High School B planned separate trips to the local amusement park. The senior class at High School A rented and filled 13 vans and 11 buses with 664 students. High School B rented and filled 11 vans and 1 bus with 188 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.
- 26) A plane traveled 1120 miles to Dar es Salaam and back. The trip there was with the wind. It took 10 hours. The trip back was into the wind. The trip back took 20 hours. Find the speed of the plane in still air and the speed of the wind.

Solve each system by graphing.

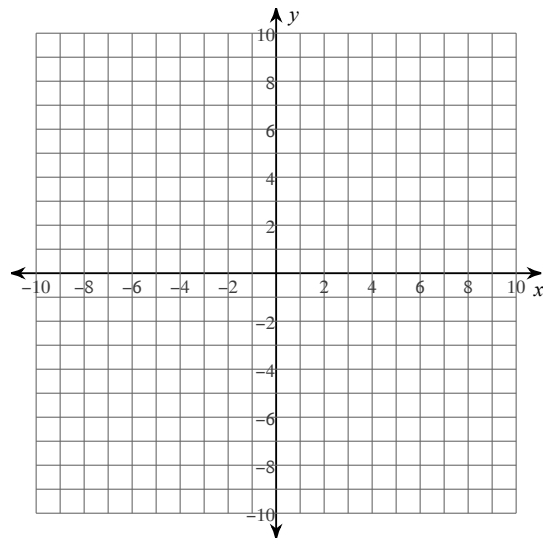
$$27) y = -\frac{1}{3}x - 3$$

$$y = -\frac{4}{3}x + 3$$



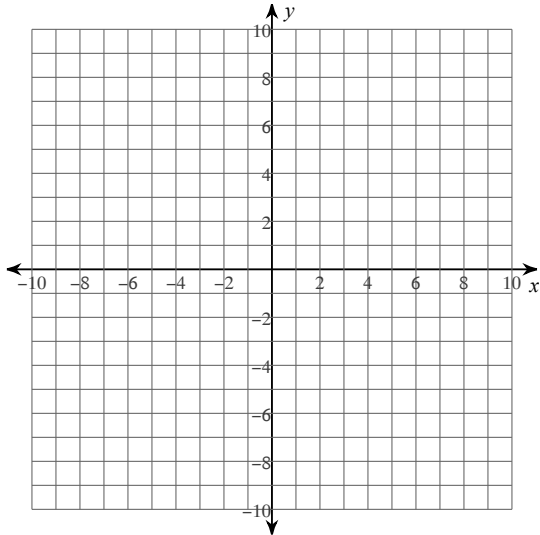
$$28) y = x + 3$$

$$y = -\frac{1}{2}x + 9$$



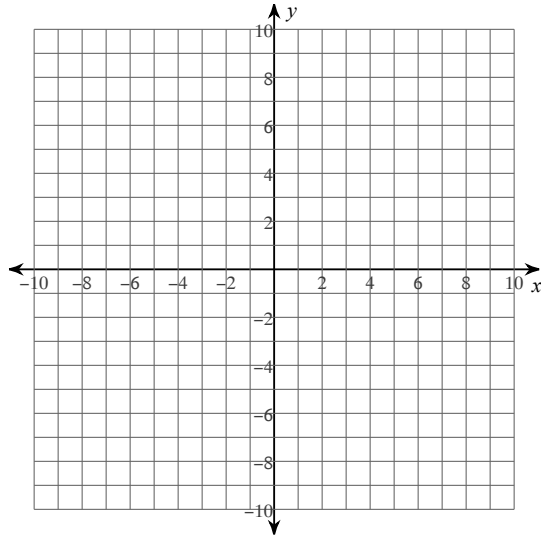
$$29) y = \frac{16}{7}x - 8$$

$$y = \frac{16}{7}x + 1$$



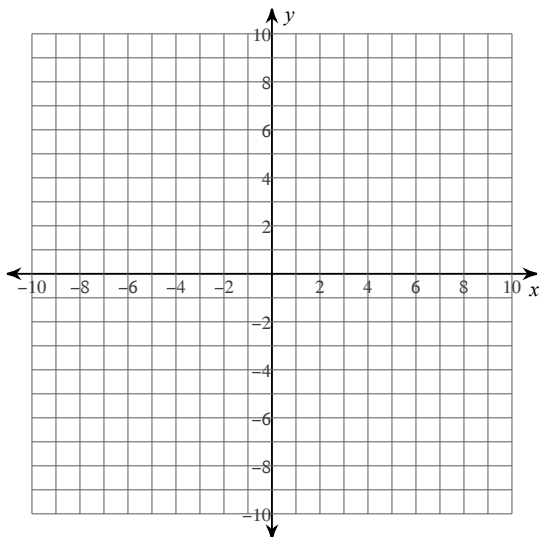
$$30) y = -\frac{9}{4}x - 6$$

$$y = \frac{3}{2}x + 9$$



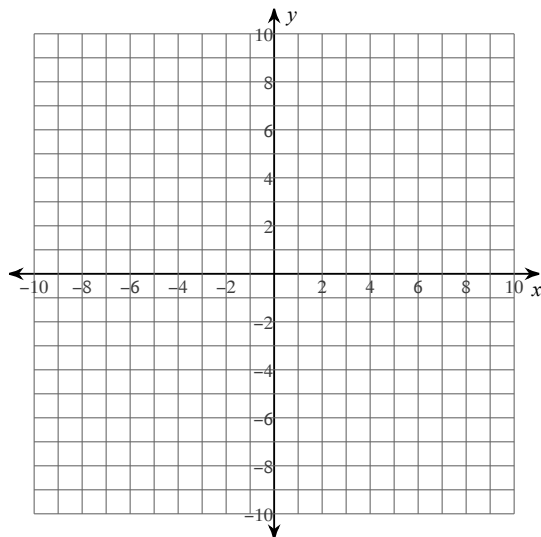
$$31) y = -\frac{3}{4}x + 1$$

$$y = \frac{3}{4}x + 7$$



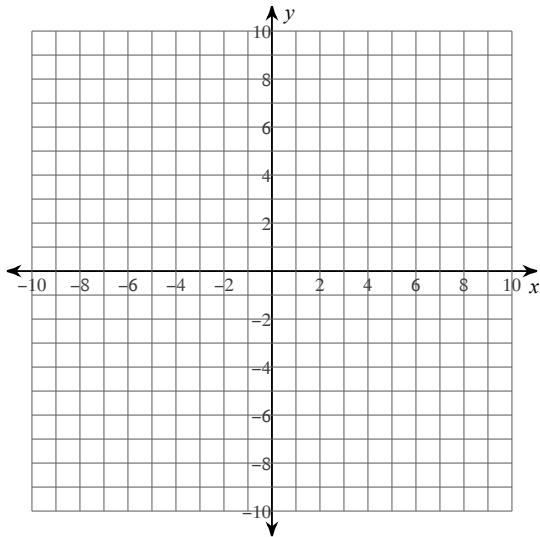
$$32) y = \frac{2}{5}x + 8$$

$$y = -\frac{12}{5}x - 6$$



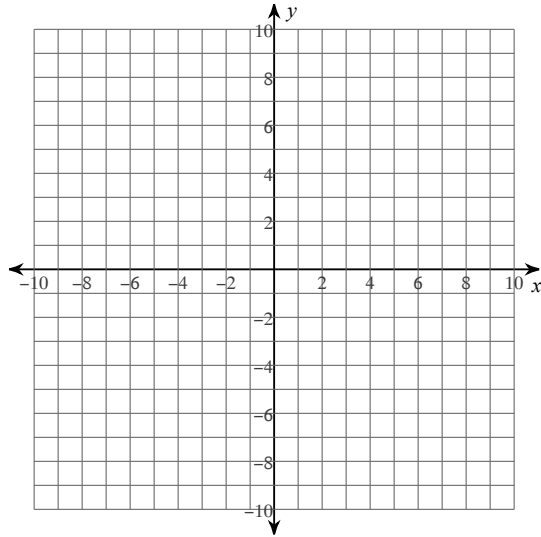
33) $x = -7$

$$y = \frac{4}{7}x + 8$$



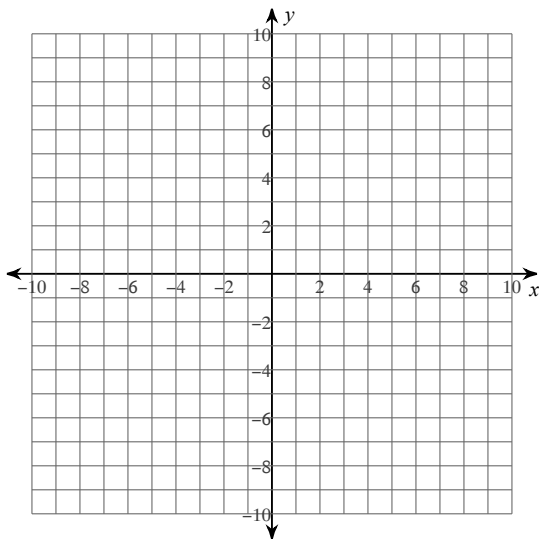
34) $y = -\frac{9}{8}x + 1$

$$y = \frac{1}{8}x - 9$$



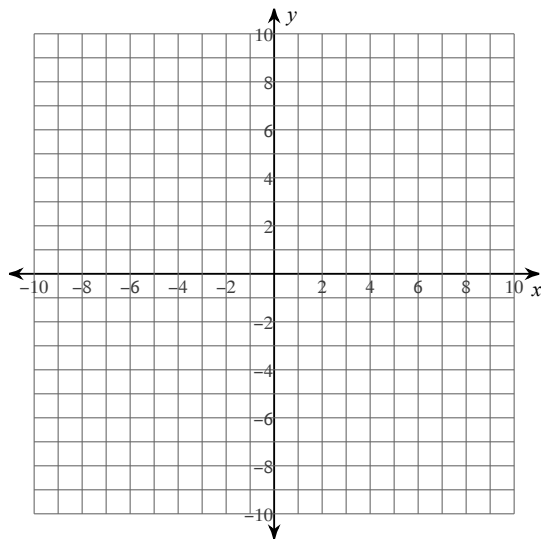
35) $y = \frac{1}{7}x - 5$

$$y = -\frac{11}{7}x + 7$$

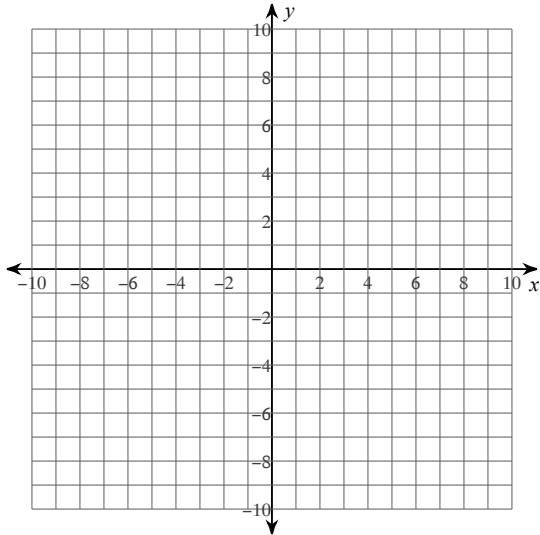


36) $y = \frac{7}{6}x + 3$

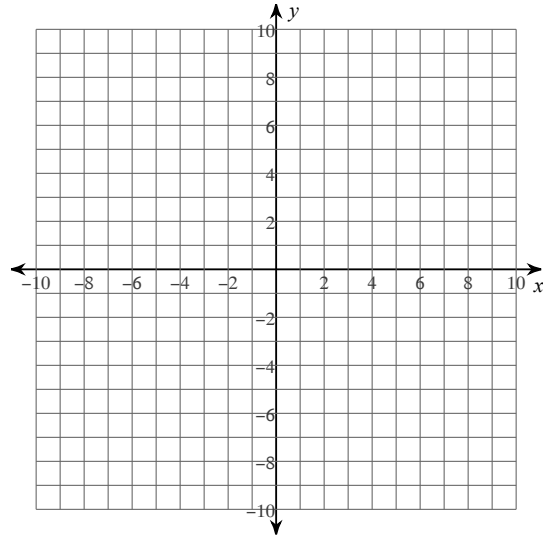
$$y = -\frac{2}{3}x - 8$$



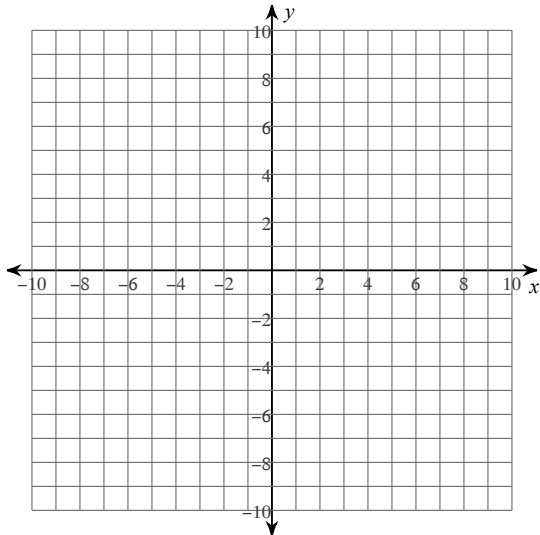
37) $y = -x - 6$
 $y = \frac{11}{2}x + 7$



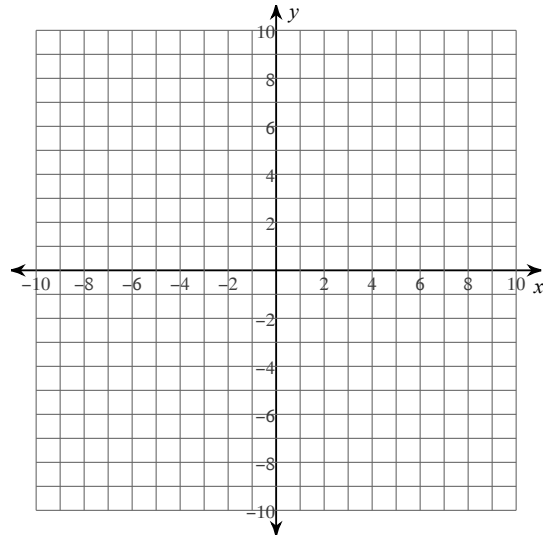
38) $y = -\frac{2}{5}x + 3$
 $y = -\frac{2}{5}x - 4$



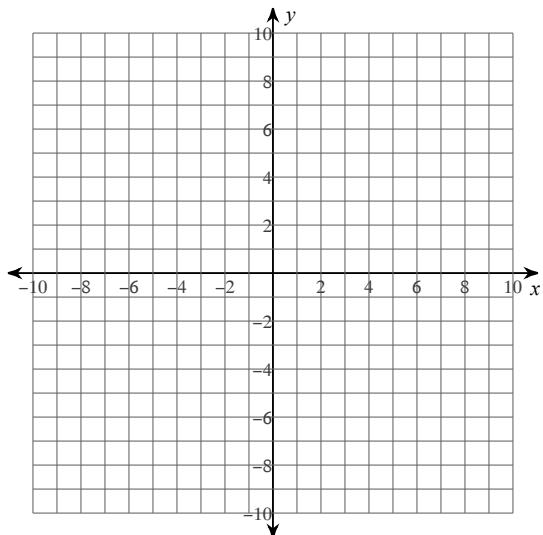
39) $y = 2x + 6$
 $y = -\frac{11}{2}x - 9$



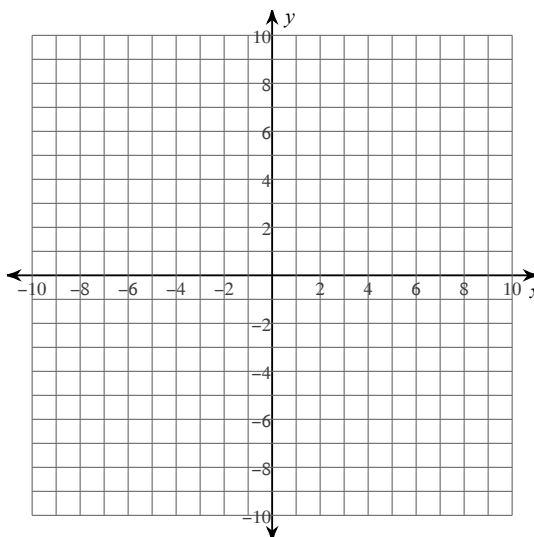
40) $y = \frac{13}{7}x + 4$
 $y = -9$



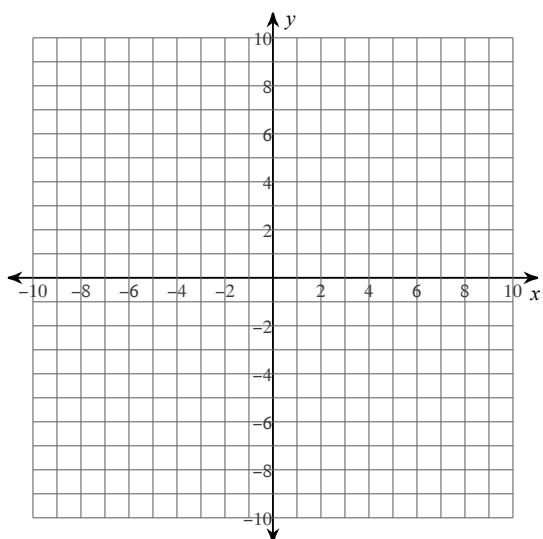
$$41) \begin{aligned} y &= -x + 5 \\ y &= \frac{4}{3}x - 9 \end{aligned}$$



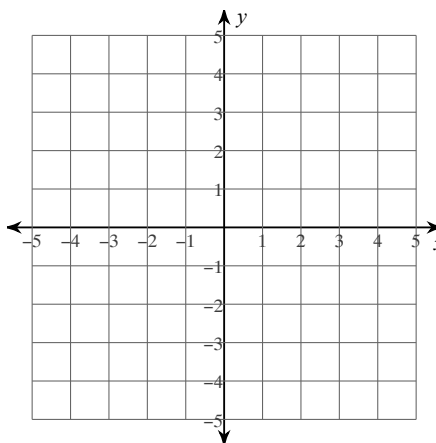
$$42) \begin{aligned} y &= -\frac{7}{4}x + 1 \\ y &= \frac{1}{4}x + 9 \end{aligned}$$



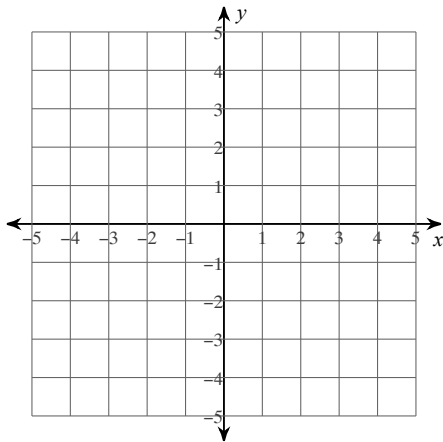
$$43) \begin{aligned} y &= \frac{1}{2}x - 1 \\ y &= -\frac{1}{2}x - 3 \end{aligned}$$



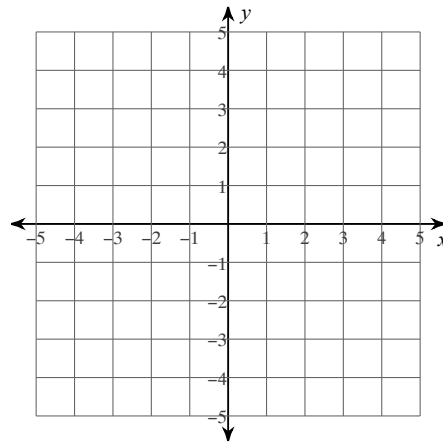
$$44) \begin{aligned} x - 4y &= -8 \\ 5x - 4y &= 8 \end{aligned}$$



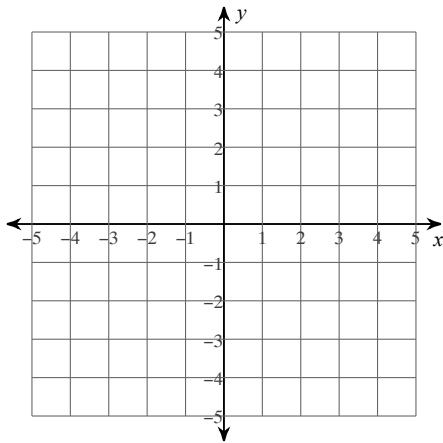
45) $2x + 3y = 12$
 $x - 3y = -3$



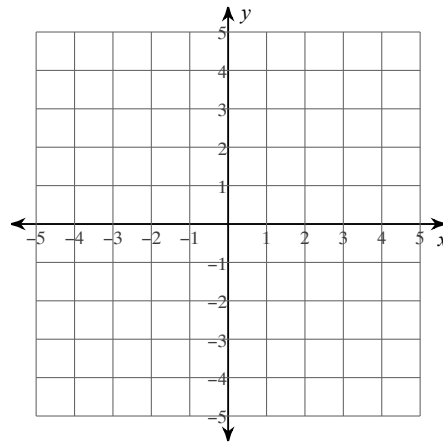
46) $x + y = -2$
 $5x + y = 2$



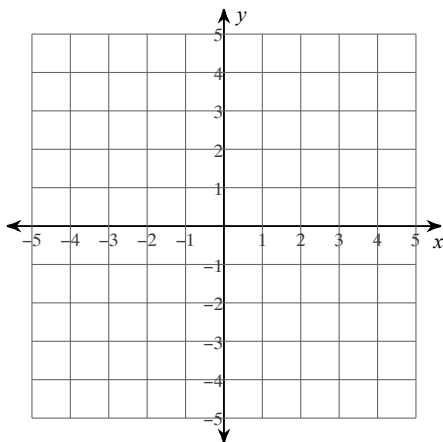
47) $3x - y = 2$
 $x - 2y = -6$



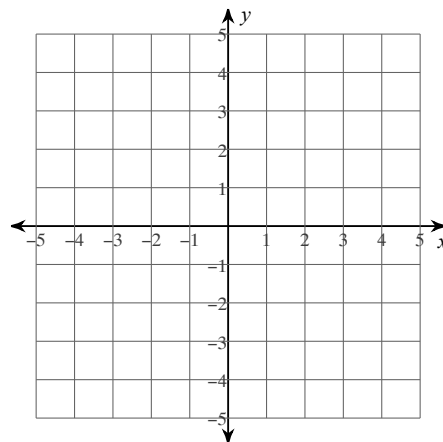
48) $x - 3y = 12$
 $2x + 3y = -3$



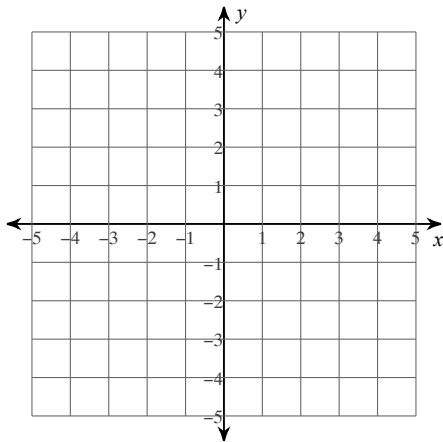
49) $5x + y = -3$
 $5x + y = -4$



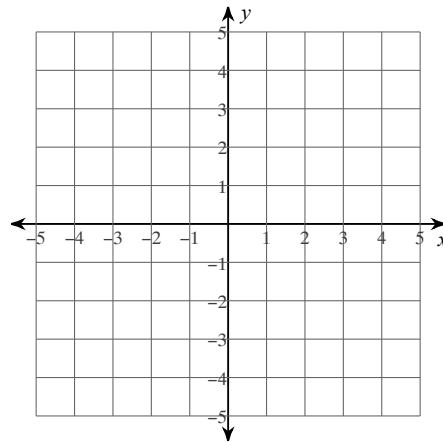
50) $x + 2y = -2$
 $3x + y = 4$



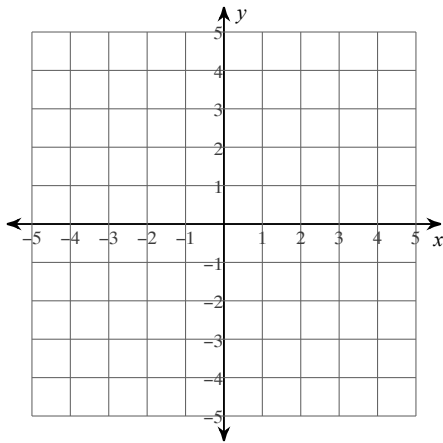
51) $x - y = 1$
 $x + 4y = 16$



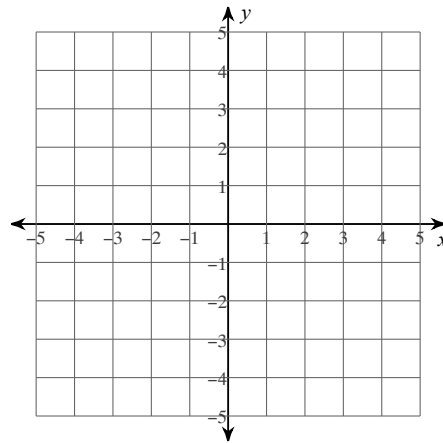
52) $x + 2y = -6$
 $3x + 2y = -2$



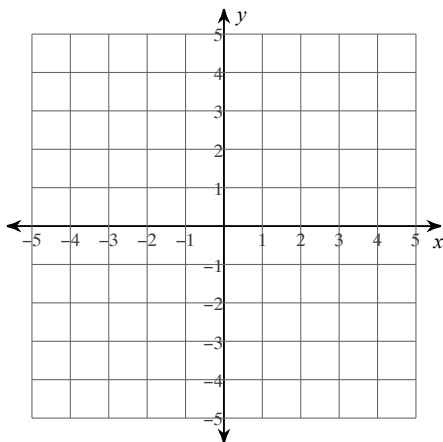
53) $2x + y = -4$
 $2x + y = -3$



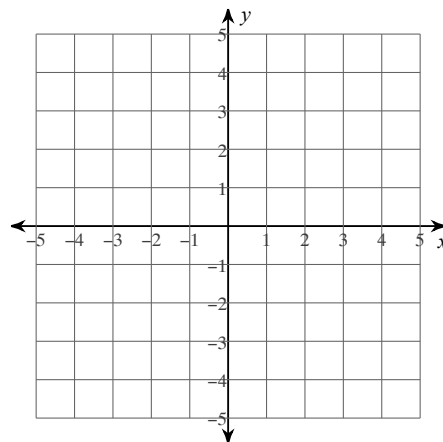
54) $2x - 3y = -3$
 $x + y = -4$



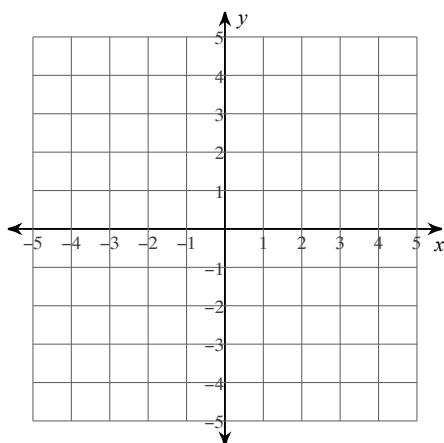
55) $5x + 3y = -12$
 $x - y = -4$



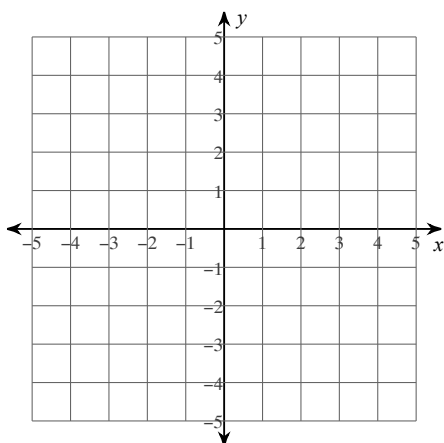
56) $8x - y = 4$
 $x - y = -3$



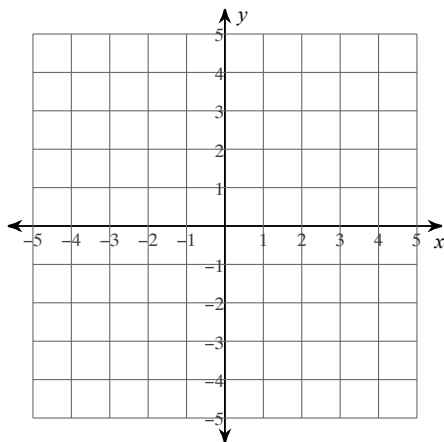
57) $x - 2y = 4$
 $3x - 2y = 8$



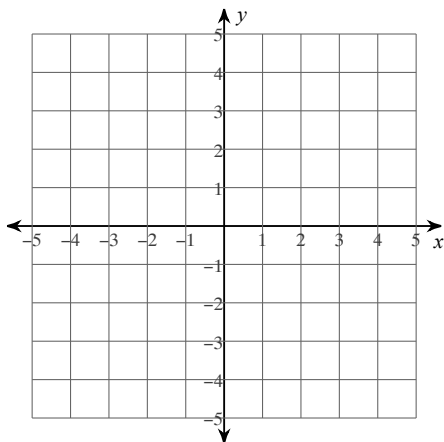
58) $x - 4y = 16$
 $x + 2y = -2$



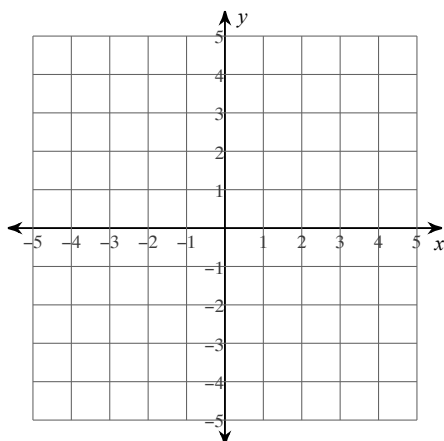
59) $4x - 3y = 3$
 $x + 3y = 12$



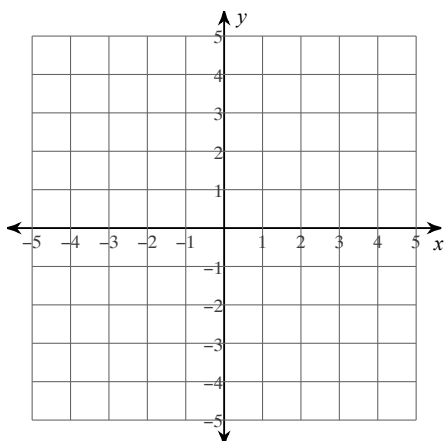
60) $2x + y = 3$
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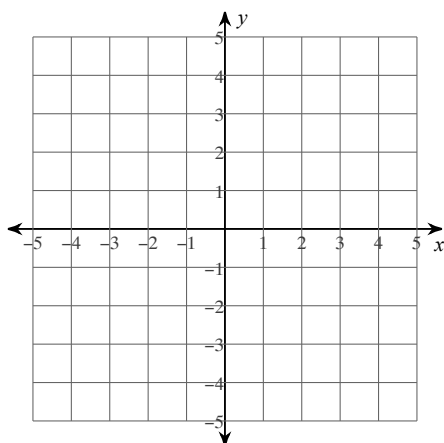
61) $x + 4y = 12$
 $3x - 2y = 8$



62) $x = 3$
 $x + 3y = -9$



63) $x + 2y = -6$
 $5x - 4y = -16$



Assignment

Date _____ Period _____

Solve each system using any method.

$$\begin{aligned} 1) \quad & 3x - y = 7 \\ & 3x + 4y = 32 \end{aligned}$$

 $(4, 5)$

$$\begin{aligned} 3) \quad & x - 3y = 15 \\ & 5x + 9y = 27 \end{aligned}$$

 $(9, -2)$

$$\begin{aligned} 5) \quad & -2x + 3y = -2 \\ & -3x - 7y = 20 \end{aligned}$$

 $(-2, -2)$

$$\begin{aligned} 7) \quad & -7x - y = -3 \\ & 6x + 5y = -14 \end{aligned}$$

 $(1, -4)$

$$\begin{aligned} 9) \quad & 6x + 3y = 15 \\ & y = -7 \end{aligned}$$

 $(6, -7)$

$$\begin{aligned} 11) \quad & -4x - 6y = -2 \\ & x - 8y = 10 \end{aligned}$$

 $(2, -1)$

$$\begin{aligned} 13) \quad & 3x - 6y = 21 \\ & x + 8y = -23 \end{aligned}$$

 $(1, -3)$

$$\begin{aligned} 15) \quad & x + 4y = 4 \\ & -2x - 8y = -6 \end{aligned}$$

No solution

$$\begin{aligned} 17) \quad & y = 3x \\ & 4x + 5y = -19 \end{aligned}$$

 $(-1, -3)$

$$\begin{aligned} 19) \quad & -8x - 2y = 4 \\ & y = -3x - 3 \end{aligned}$$

 $(1, -6)$

$$\begin{aligned} 21) \quad & y = 4x + 6 \\ & 3x - 3y = -18 \end{aligned}$$

 $(0, 6)$

$$\begin{aligned} 2) \quad & x + y = -7 \\ & x + y = -6 \end{aligned}$$

No solution

$$\begin{aligned} 4) \quad & 3x - y = -3 \\ & 3x - y = -8 \end{aligned}$$

No solution

$$\begin{aligned} 6) \quad & 3x + 3y = -15 \\ & 7x + 3y = -23 \end{aligned}$$

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$$\begin{aligned} 8) \quad & -5x + 5y = 10 \\ & -7x + 8y = 11 \end{aligned}$$

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$$\begin{aligned} 10) \quad & -x + 4y = 20 \\ & -4x - 8y = 8 \end{aligned}$$

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$$\begin{aligned} 12) \quad & 2x + y = -13 \\ & 3x - 3y = 12 \end{aligned}$$

 $(-3, -7)$

$$\begin{aligned} 14) \quad & x + y = -9 \\ & 5x - 5y = 5 \end{aligned}$$

 $(-4, -5)$

$$\begin{aligned} 16) \quad & 6x + 3y = -30 \\ & 2x + y = -10 \end{aligned}$$

Infinite number of solutions

$$\begin{aligned} 18) \quad & 6x + 2y = 16 \\ & y = -3x + 8 \end{aligned}$$

Infinite number of solutions

$$\begin{aligned} 20) \quad & y = -5x + 9 \\ & -x + 7y = -9 \end{aligned}$$

 $(2, -1)$

$$\begin{aligned} 22) \quad & 5x + 5y = 20 \\ & y = -4x + 4 \end{aligned}$$

 $(0, 4)$

23) When you reverse the digits in a certain two-digit number you increase its value by 18. What is the number if the sum of its digits is 16?

79

24) New York City is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 1 van and 5 buses with 273 students. High School B rented and filled 11 vans and 6 buses with 406 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

Van: 8, Bus: 53

25) The senior classes at High School A and High School B planned separate trips to the local amusement park. The senior class at High School A rented and filled 13 vans and 11 buses with 664 students. High School B rented and filled 11 vans and 1 bus with 188 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

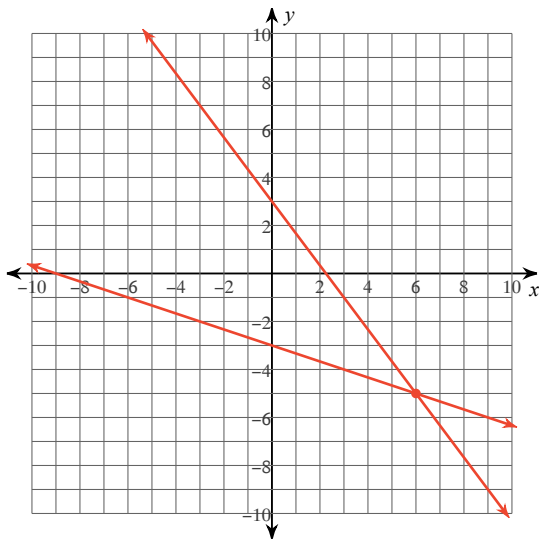
Van: 13, Bus: 45

26) A plane traveled 1120 miles to Dar es Salaam and back. The trip there was with the wind. It took 10 hours. The trip back was into the wind. The trip back took 20 hours. Find the speed of the plane in still air and the speed of the wind.

plane: 84 mph, wind: 28 mph

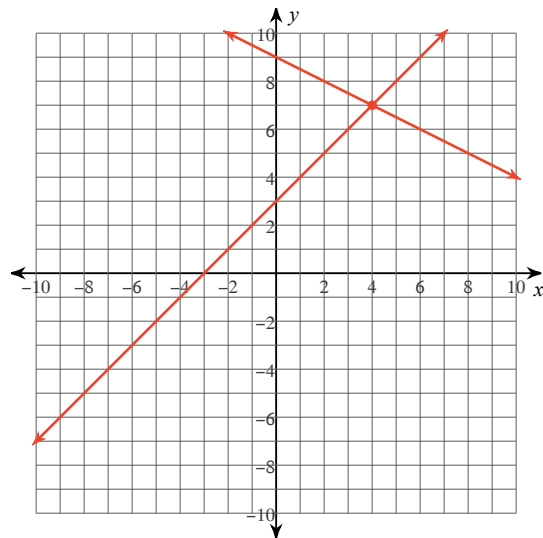
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$$27) \begin{aligned} y &= -\frac{1}{3}x - 3 \\ y &= -\frac{4}{3}x + 3 \end{aligned}$$



(6, -5)

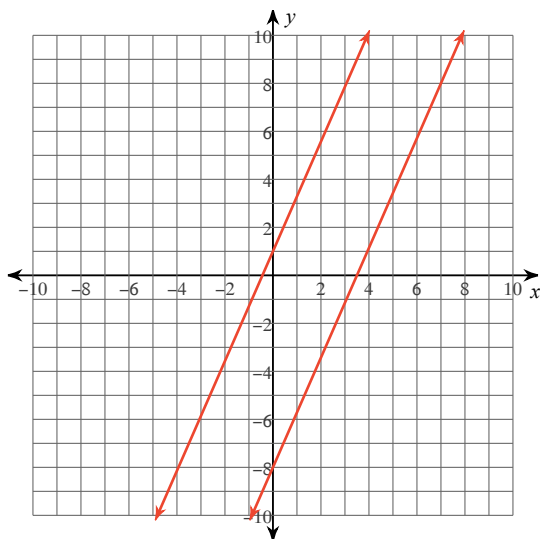
$$28) \begin{aligned} y &= x + 3 \\ y &= -\frac{1}{2}x + 9 \end{aligned}$$



(4, 7)

$$29) y = \frac{16}{7}x - 8$$

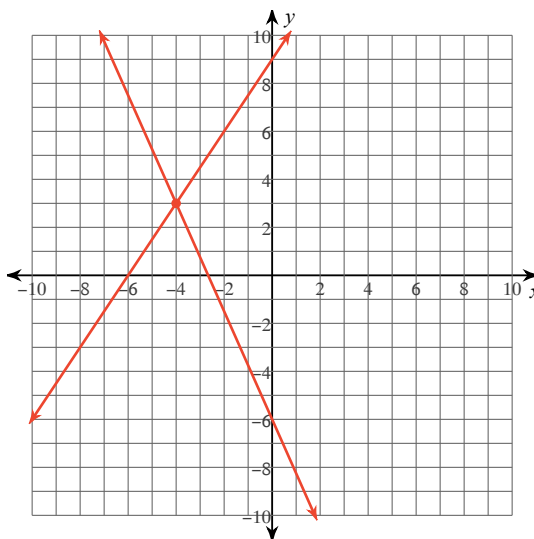
$$y = \frac{16}{7}x + 1$$



No solution

$$30) y = -\frac{9}{4}x - 6$$

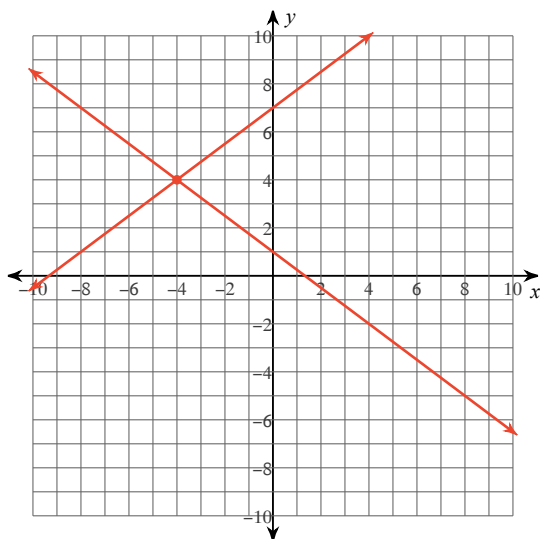
$$y = \frac{3}{2}x + 9$$



$(-4, 3)$

$$31) y = -\frac{3}{4}x + 1$$

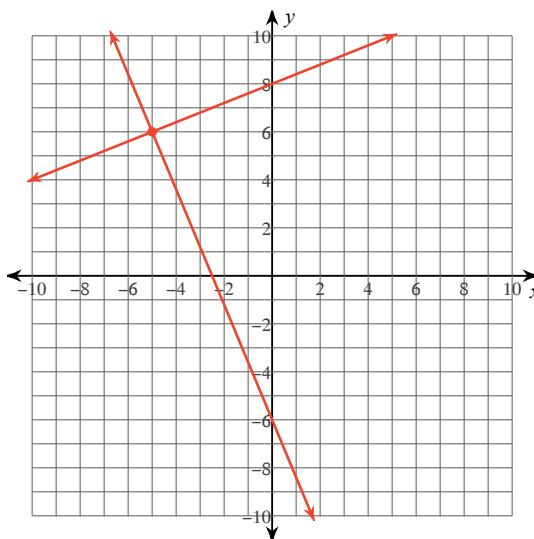
$$y = \frac{3}{4}x + 7$$



$(-4, 4)$

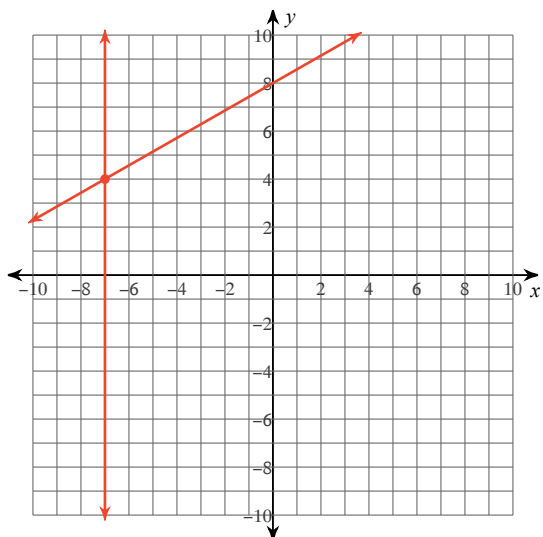
$$32) y = \frac{2}{5}x + 8$$

$$y = -\frac{12}{5}x - 6$$



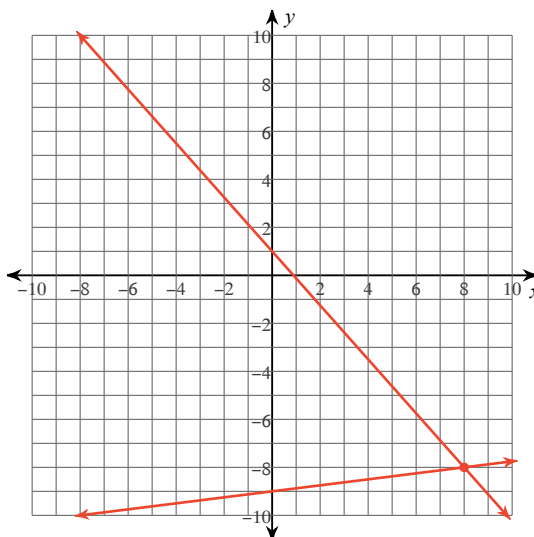
$(-5, 6)$

33) $x = -7$
 $y = \frac{4}{7}x + 8$



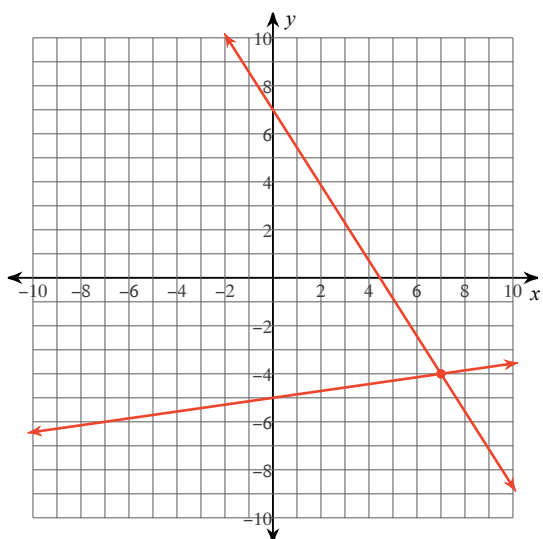
$(-7, 4)$

34) $y = -\frac{9}{8}x + 1$
 $y = \frac{1}{8}x - 9$



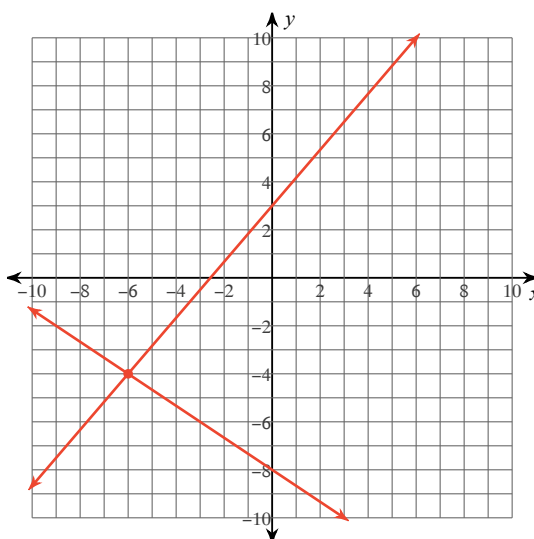
$(8, -8)$

35) $y = \frac{1}{7}x - 5$
 $y = -\frac{11}{7}x + 7$



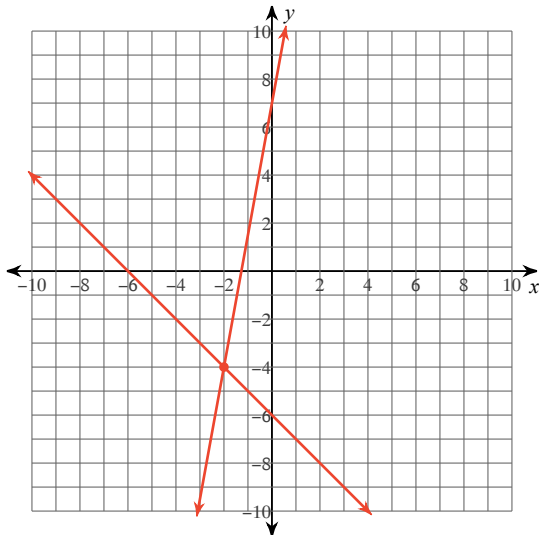
$(7, -4)$

36) $y = \frac{7}{6}x + 3$
 $y = -\frac{2}{3}x - 8$



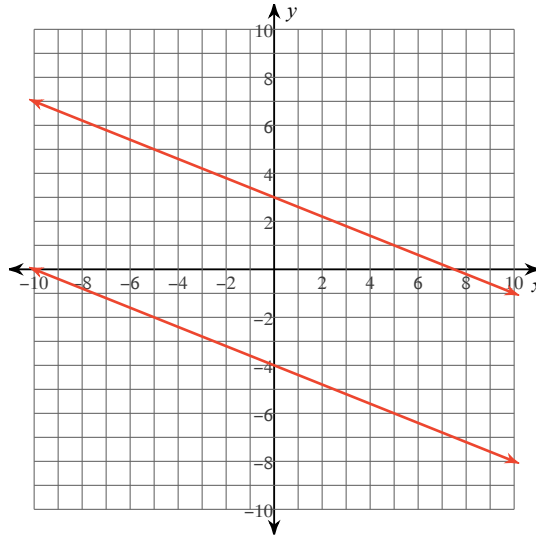
$(-6, -4)$

37) $y = -x - 6$
 $y = \frac{11}{2}x + 7$



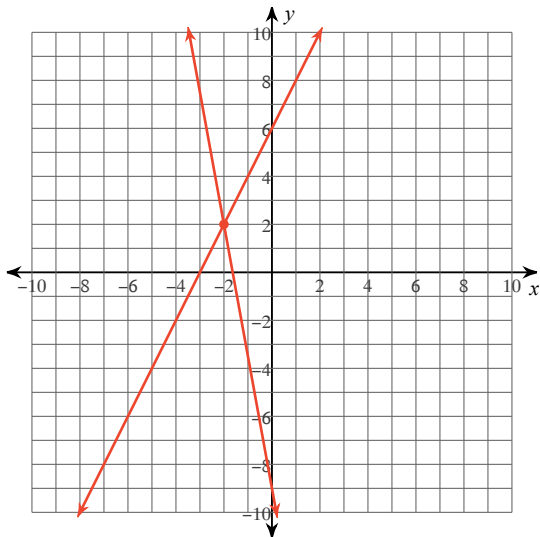
$(-2, -4)$

38) $y = -\frac{2}{5}x + 3$
 $y = -\frac{2}{5}x - 4$



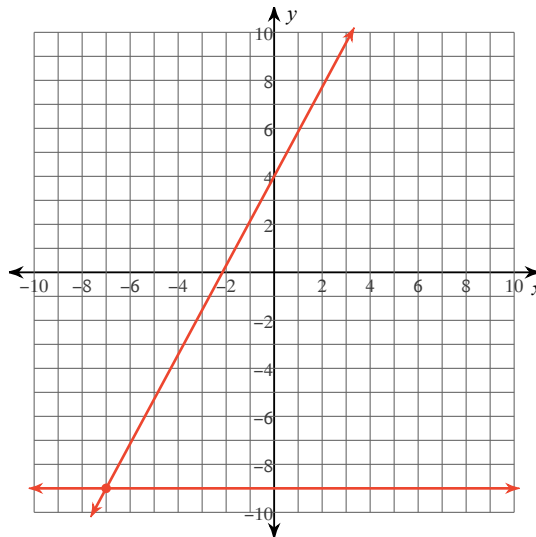
No solution

39) $y = 2x + 6$
 $y = -\frac{11}{2}x - 9$



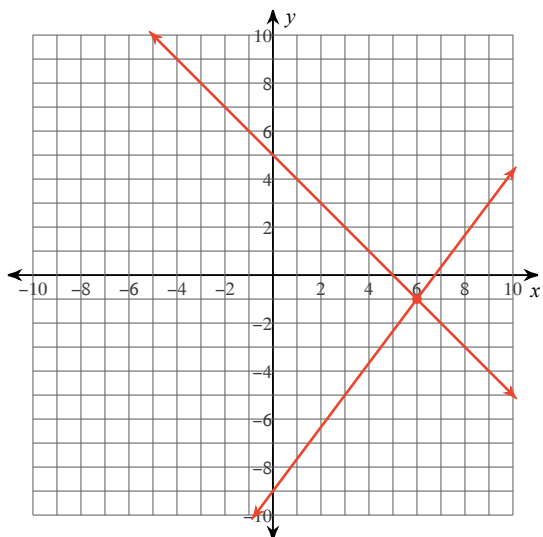
$(-2, 2)$

40) $y = \frac{13}{7}x + 4$
 $y = -9$



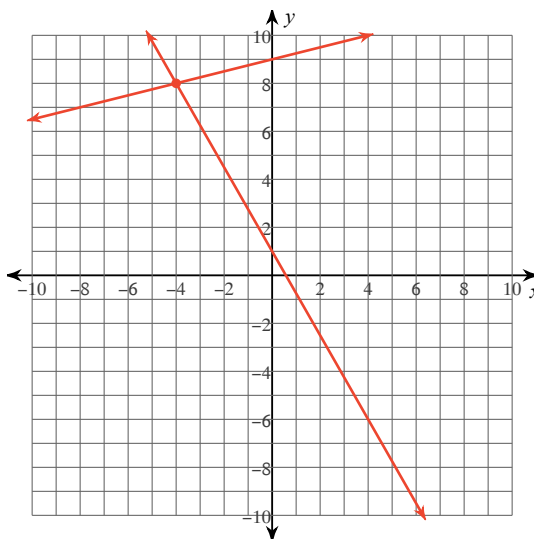
$(-7, -9)$

41) $y = -x + 5$
 $y = \frac{4}{3}x - 9$



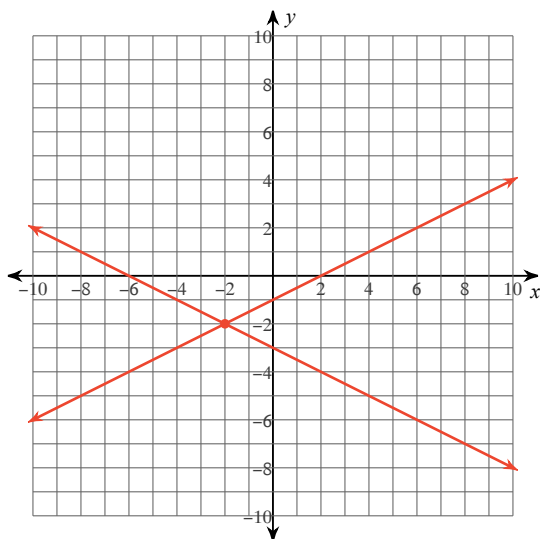
(6, -1)

42) $y = -\frac{7}{4}x + 1$
 $y = \frac{1}{4}x + 9$



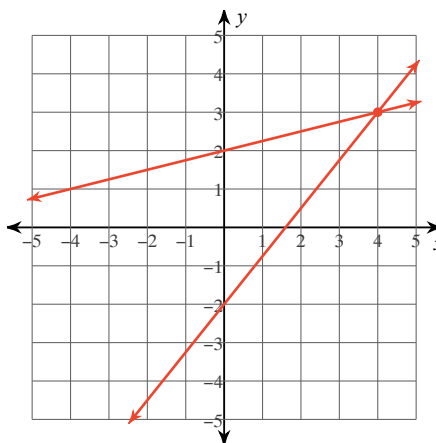
(-4, 8)

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



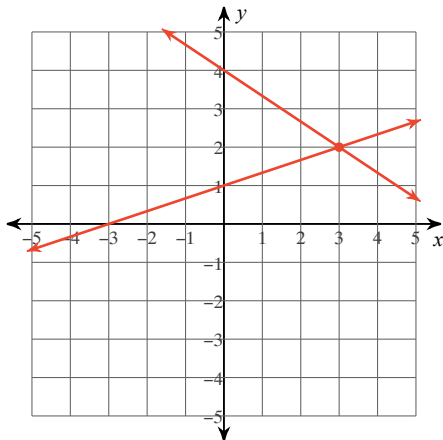
(-2, -2)

44) $x - 4y = -8$
 $5x - 4y = 8$



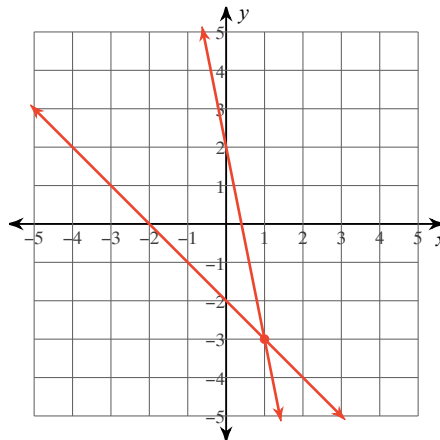
(4, 3)

45) $2x + 3y = 12$
 $x - 3y = -3$



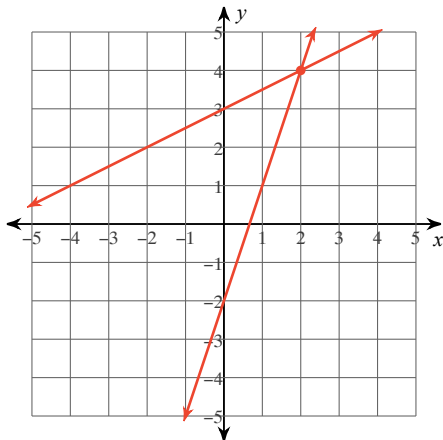
(3, 2)

46) $x + y = -2$
 $5x + y = 2$



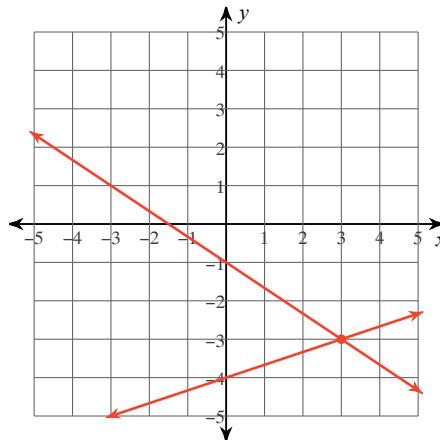
(1, -3)

47) $3x - y = 2$
 $x - 2y = -6$



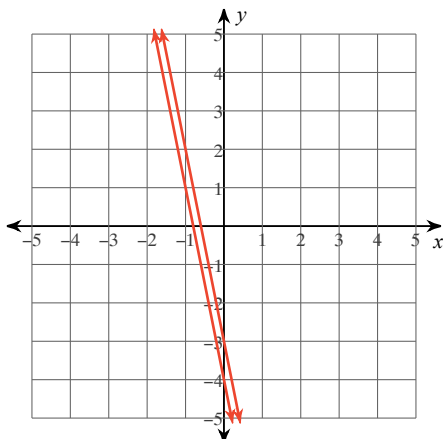
(2, 4)

48) $x - 3y = 12$
 $2x + 3y = -3$



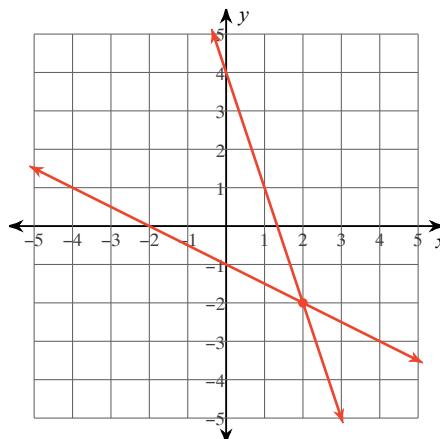
(3, -3)

49) $5x + y = -3$
 $5x + y = -4$



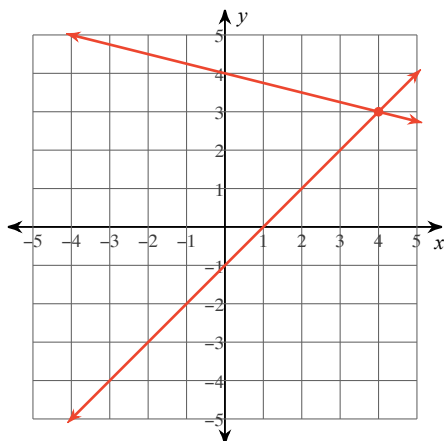
No solution

50) $x + 2y = -2$
 $3x + y = 4$



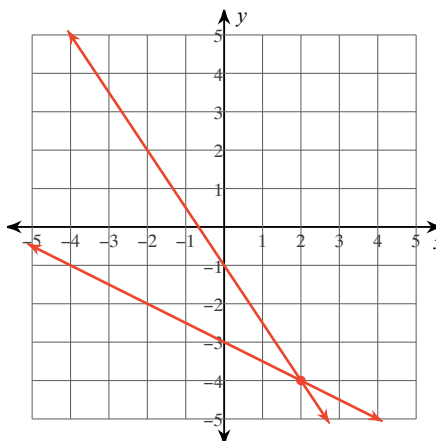
(2, -2)

$$51) \begin{cases} x - y = 1 \\ x + 4y = 16 \end{cases}$$



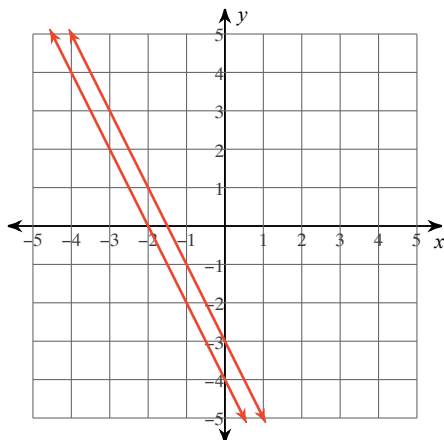
(4, 3)

$$52) \begin{cases} x + 2y = -6 \\ 3x + 2y = -2 \end{cases}$$



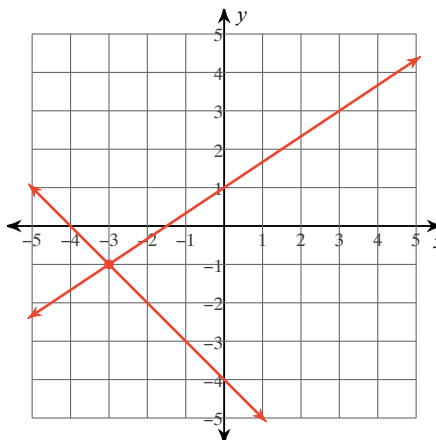
(2, -4)

$$53) \begin{cases} 2x + y = -4 \\ 2x + y = -3 \end{cases}$$



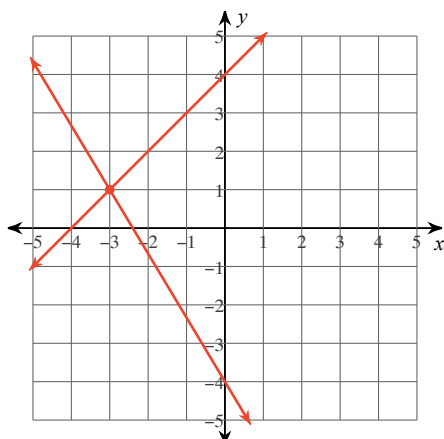
No solution

$$54) \begin{cases} 2x - 3y = -3 \\ x + y = -4 \end{cases}$$



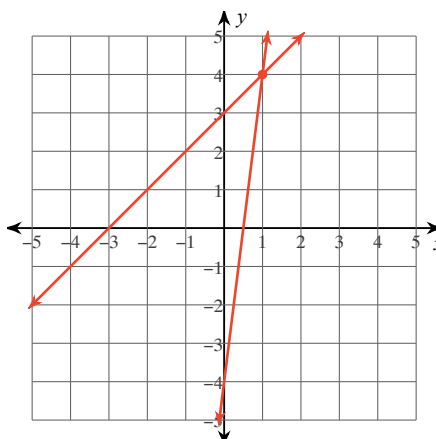
(-3, -1)

$$55) \begin{cases} 5x + 3y = -12 \\ x - y = -4 \end{cases}$$



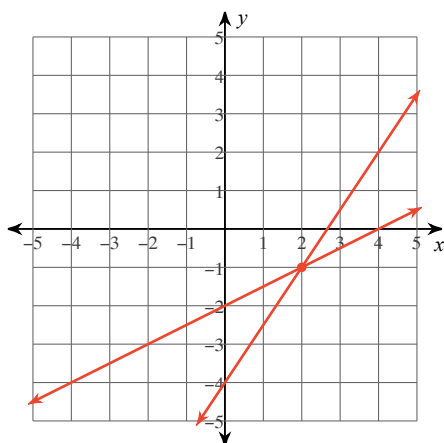
(-3, 1)

$$56) \begin{cases} 8x - y = 4 \\ x - y = -3 \end{cases}$$



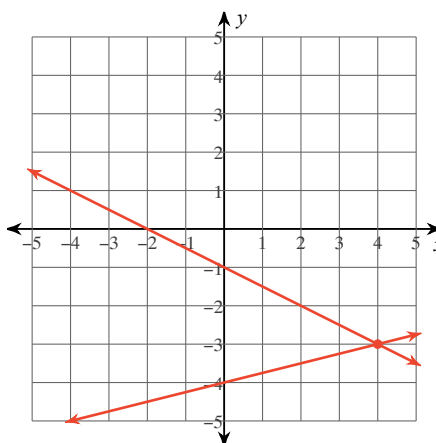
(1, 4)

57) $x - 2y = 4$
 $3x - 2y = 8$



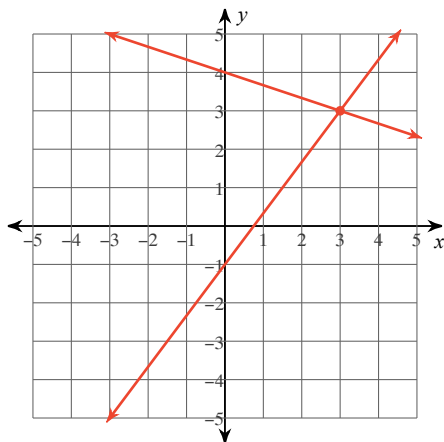
(2, -1)

58) $x - 4y = 16$
 $x + 2y = -2$



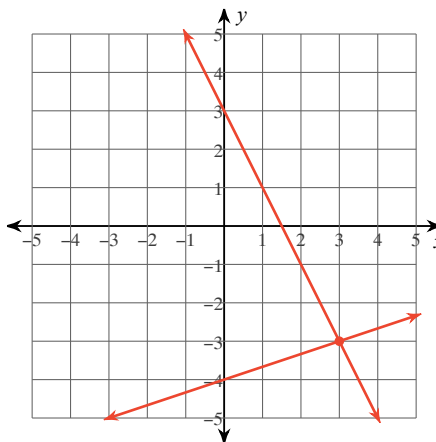
(4, -3)

59) $4x - 3y = 3$
 $x + 3y = 12$



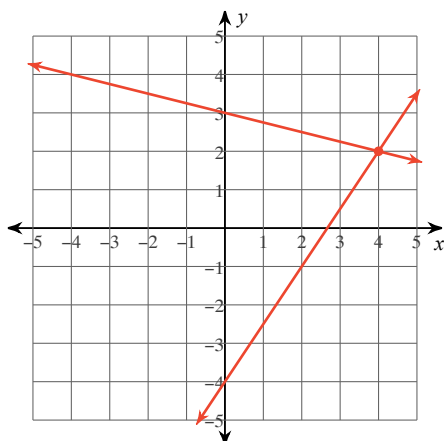
(3, 3)

60) $2x + y = 3$
 $x - 3y = 12$



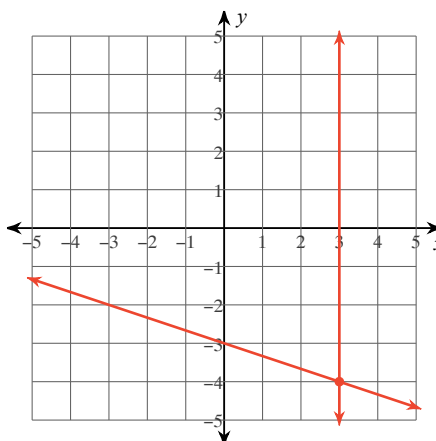
(3, -3)

61) $x + 4y = 12$
 $3x - 2y = 8$



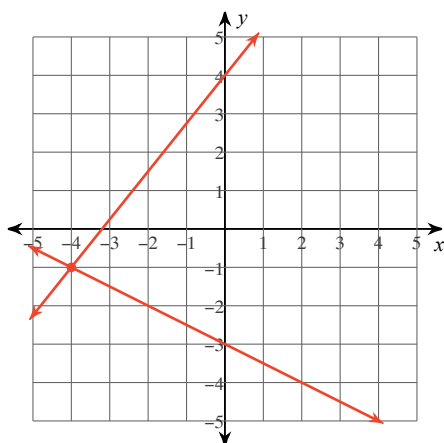
(4, 2)

62) $x = 3$
 $x + 3y = -9$



(3, -4)

63) $x + 2y = -6$
 $5x - 4y = -16$



$(-4, -1)$