

Linear Systems Extra Practise

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Sketch the graph of each line.

$$1) 2x = -\frac{2}{7}y + \frac{4}{7}$$

$$2) 0 = -8 + 3x + 2y$$

$$3) -5y = x$$

$$4) y = 1 + 2x$$

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

$$6) x + 20 - 5y = 0$$

Solve each system by elimination.

$$7) \begin{aligned} 5x - 3y &= -27 \\ -5x + 8y &= 22 \end{aligned}$$

$$8) \begin{aligned} -2x - 4y &= 23 \\ 2x + 4y &= -20 \end{aligned}$$

$$9) \begin{aligned} -7x - 2y &= 14 \\ 7x + 6y &= -14 \end{aligned}$$

$$10) \begin{aligned} -7x - 9y &= 0 \\ 4x + 9y &= 0 \end{aligned}$$

$$11) \begin{aligned} -4x + 2y &= 20 \\ -12x + 10y &= 28 \end{aligned}$$

$$12) \begin{aligned} -7x - y &= 21 \\ 5x - 5y &= -15 \end{aligned}$$

$$13) \begin{aligned} 6x - 9y &= 8 \\ 2x - 3y &= 2 \end{aligned}$$

$$14) \begin{aligned} 2x + y &= 7 \\ -x + 3y &= -28 \end{aligned}$$

$$15) \begin{aligned} 9x - 10y &= -9 \\ -5x + 4y &= 5 \end{aligned}$$

$$16) \begin{aligned} -2x - 7y &= -24 \\ -7x - 2y &= 6 \end{aligned}$$

$$17) \begin{aligned} 5x + 5y &= -15 \\ -2x - 3y &= 12 \end{aligned}$$

$$18) \begin{aligned} -5x + 2y &= 0 \\ -7x + 5y &= -22 \end{aligned}$$

Solve each system by substitution.

$$19) \begin{aligned} 12x + 2y &= -10 \\ y &= -6x - 5 \end{aligned}$$

$$20) \begin{aligned} y &= 6x - 15 \\ 2x + 3y &= -5 \end{aligned}$$

$$21) \begin{aligned} -3x - 5y &= 11 \\ y &= 5x + 9 \end{aligned}$$

$$22) \begin{aligned} -6x + 6y &= 24 \\ y &= -1 \end{aligned}$$

$$23) \begin{aligned} -4x + 4y &= 16 \\ x - 4y &= -10 \end{aligned}$$

$$24) \begin{aligned} x + 5y &= -4 \\ -x - 5y &= 4 \end{aligned}$$

$$\begin{aligned} 25) \quad x + 5y &= -22 \\ -2x - 3y &= 2 \end{aligned}$$

$$\begin{aligned} 26) \quad x + 7y &= 19 \\ -6x - 6y &= -6 \end{aligned}$$

$$\begin{aligned} 27) \quad -2x - 4y &= -14 \\ 4x + 2y &= -8 \end{aligned}$$

$$\begin{aligned} 28) \quad y &= -3 \\ -3x + 3y &= -18 \end{aligned}$$

$$\begin{aligned} 29) \quad -3x - 3y &= 15 \\ 7x + 2y &= 5 \end{aligned}$$

$$\begin{aligned} 30) \quad -2x - 7y &= -19 \\ 4x - y &= -7 \end{aligned}$$

Factor each completely.

$$31) \quad m^2 - 9m + 14$$

$$32) \quad x^2 + 4x - 12$$

$$33) \quad k^2 - 6k - 40$$

$$34) \quad x^2 - 3x - 70$$

$$35) \quad x^2 + 8x + 12$$

$$36) \quad b^2 + 5b + 6$$

$$37) \quad 2m^4 + 4m^3 - 30m^2$$

$$38) \quad 4n^2 - 8n - 32$$

$$39) \quad 4r^2 - 32r - 36$$

$$40) \quad 3v^2 + 3v - 60$$

$$41) \quad 2v^2 - 20v + 48$$

$$42) \quad 5a^3 + 50a^2$$

$$43) \quad x^2 - 13xy + 40y^2$$

$$44) \quad x^2 + 6xy - 40y^2$$

$$45) \quad x^2 + xy - 6y^2$$

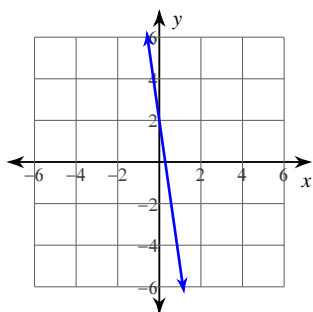
$$46) \quad x^2 - 3xy + 2y^2$$

$$47) \quad x^2 + 7xy - 8y^2$$

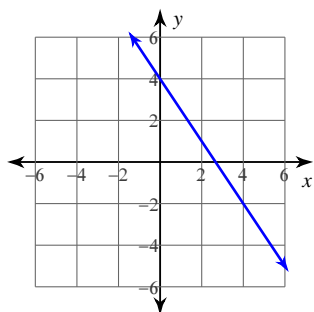
$$48) \quad x^2 - 8xy + 7y^2$$

Answers to Linear Systems Extra Practise

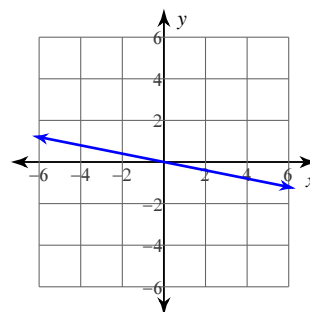
1)



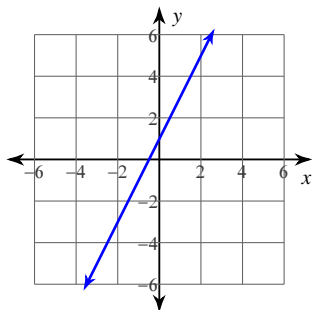
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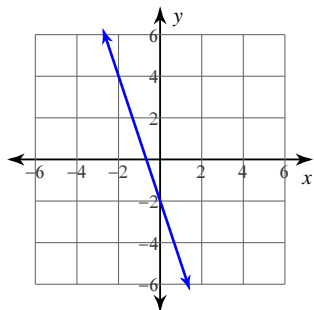
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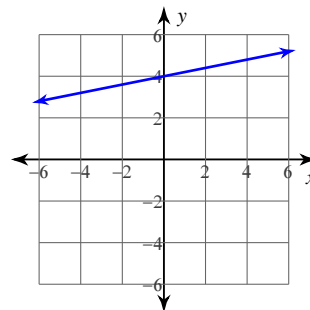
4)



5)



6)



7) $(-6, -1)$

8) No solution

9) $(-2, 0)$

10) $(0, 0)$

11) $(-9, -8)$

12) $(-3, 0)$

13) No solution

14) $(7, -7)$

15) $(-1, 0)$

16) $(-2, 4)$

17) $(3, -6)$

18) $(-4, -10)$

19) Infinite number of solutions

20) $(2, -3)$

21) $(-2, -1)$

22) $(-5, -1)$

23) $(-2, 2)$

24) Infinite number of solutions

25) $(8, -6)$

26) $(-2, 3)$

27) $(-5, 6)$

28) $(3, -3)$

29) $(3, -8)$

30) $(-1, 3)$

31) $(m - 7)(m - 2)$

32) $(x + 6)(x - 2)$

33) $(k - 10)(k + 4)$

34) $(x - 10)(x + 7)$

35) $(x + 2)(x + 6)$

36) $(b + 2)(b + 3)$

37) $2m^2(m - 3)(m + 5)$

38) $4(n - 4)(n + 2)$

39) $4(r - 9)(r + 1)$

40) $3(v + 5)(v - 4)$

41) $2(v - 6)(v - 4)$

42) $5a^2(a + 10)$

43) $(x - 5y)(x - 8y)$

44) $(x - 4y)(x + 10y)$

45) $(x + 3y)(x - 2y)$

46) $(x - 2y)(x - y)$

47) $(x - y)(x + 8y)$

48) $(x - 7y)(x - y)$