

Summer Assignment - Part 2

Section 1: Equations and Inequalities

Solve each equation.

1) $-8 - 2(-3 - 5p) = -2(-5p + 6) - 5p$

2) $3(7v - 1) = 4 + 7(4v + 5)$

Solve each equation for the indicated variable.

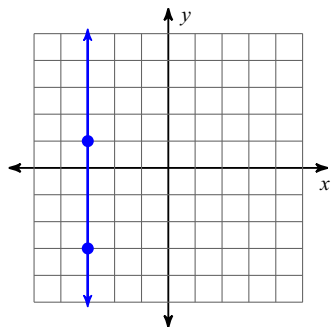
3) $\frac{k}{a} = w + v$, for a

4) $z = \frac{a + b}{ma}$, for a

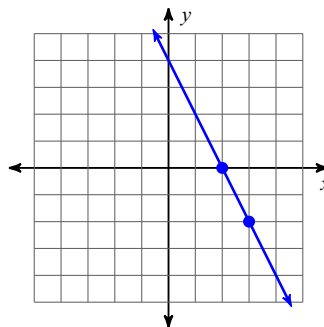
Section 2: Linear Equations

Find the slope of each line.

5)



6)



Find the slope of the line through each pair of points.

7) $(10, -13), (-5, 17)$

8) $(17, 12), (-3, -3)$

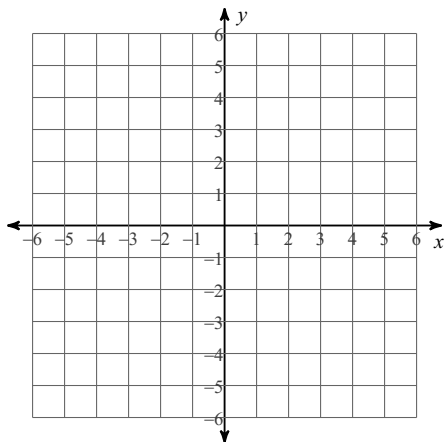
Find the slope of each line.

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

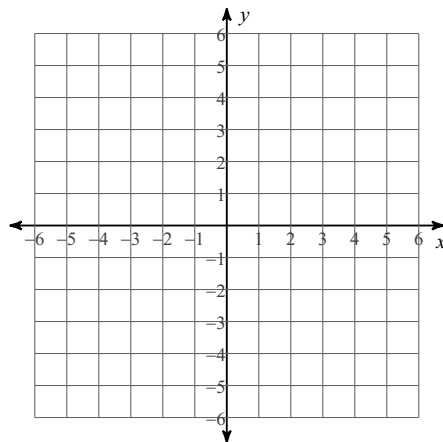
10) $y = -4x + 1$

Sketch the graph of each line.

11) $10x + 8y = 16$



12) $-y + 5 = 0$



Section 3: Systems of Equations and Inequalities
Solve each system by substitution.

13) $2x - 7y = -16$
 $y = x - 2$

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

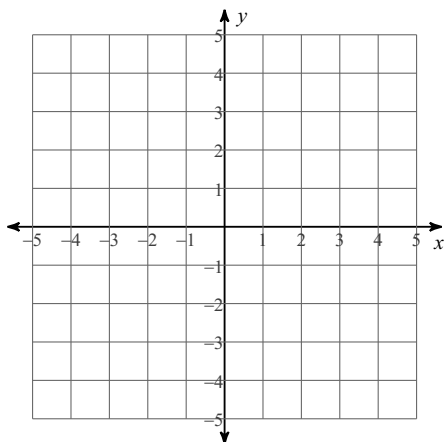
Solve each system by elimination.

15) $-3x + 29 = 8y$
 $-x - y + 8 = 0$

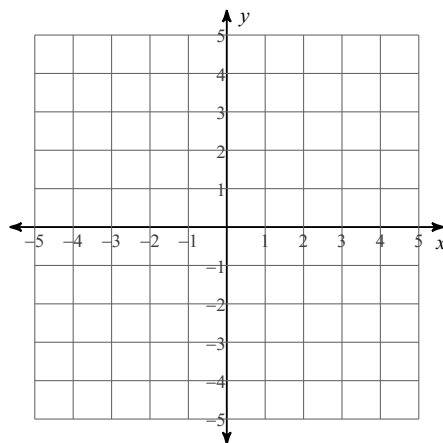
16) $8y - 2 = 6x$
 $0 = -10x + 20 + 18y$

Solve each system by graphing.

17) $-8 + 4y - 2x = 0$
 $-12 = 4y - 7x$

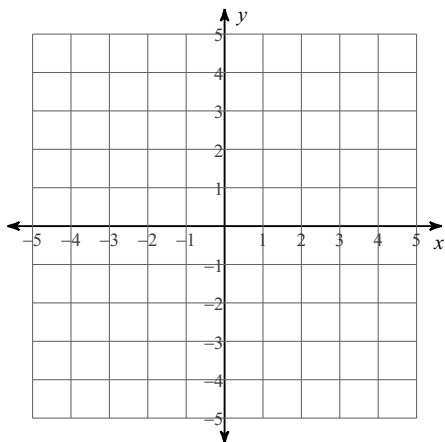


18) $0 = -5x - 4 + 2y$
 $1 + \frac{5}{6}x - \frac{1}{3}y = 0$

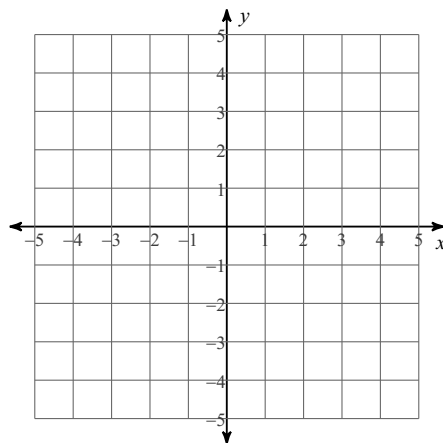


Sketch the solution to each system of inequalities.

19) $y > \frac{1}{2}x + 2$
 $y > \frac{1}{2}x - 2$



20) $3x + y < -2$
 $x - y > -2$



Section 4: Distance Formula and Pythagorean Theorem

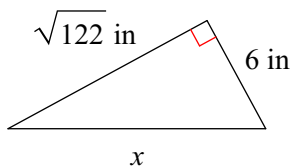
Find the distance between each pair of points.

21) $(-5, 5), (1, 3)$

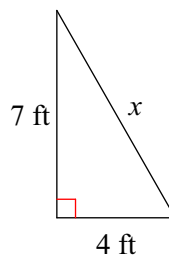
22) $(2, -3), (-4, 0)$

Find the missing side of each triangle. Leave your answers in simplest radical form.

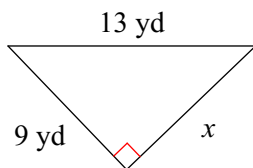
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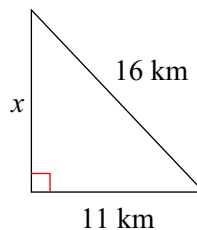
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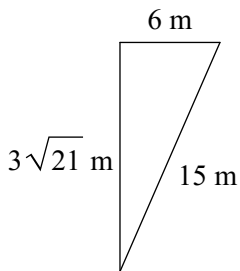


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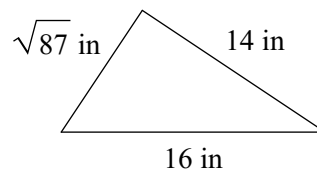


State if each triangle is a right triangle.

27)

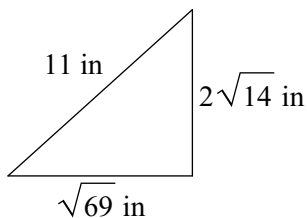


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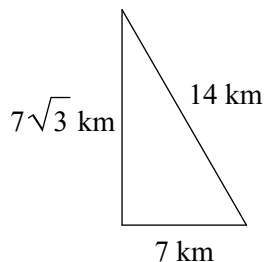


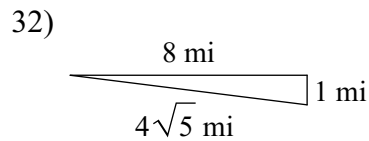
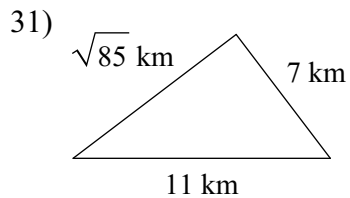
State if each triangle is acute, obtuse, or right.

29)



30)





Section 5: Radical Expressions and Equations
Simplify.

33) $-6\sqrt{288x}$

34) $3\sqrt{320a^3}$

35) $-\sqrt{12} - 2\sqrt{27}$

36) $3\sqrt{54} + 3\sqrt{6}$

37) $-2\sqrt{2}(2 + \sqrt{2})$

38) $4\sqrt{2}(-4\sqrt{10} + 4\sqrt{6})$

39) $(3\sqrt{3} + \sqrt{2})(\sqrt{3} + \sqrt{2})$

40) $(\sqrt{5} + 5)(-2\sqrt{5} + 3)$

41) $\frac{5\sqrt{5}}{3\sqrt{2}}$

42) $\frac{3}{3\sqrt{5} + \sqrt{2}}$

Solve each equation. Remember to check for extraneous solutions.

43) $\sqrt{6v - 2} = 4$

44) $\sqrt{12 - 2x} = \sqrt{x + 3}$

Section 6: Quadratic Expressions and Equations
Factor each completely.

45) $2k^2 + 6k$

46) $x^2 + 12x + 32$

Solve each equation by factoring. Leave answers in exact form. Do NOT approximate!

47) $r^2 + 4 = -4r$

48) $p^2 + 1 = 2p$

Solve each equation by taking square roots.

49) $8 + 9n^2 = 12$

50) $-7 + 49p^2 = -3$

Solve each equation by completing the square.

51) $r^2 - 16r - 17 = 0$

52) $x^2 + 2x - 2 = 0$

Solve each equation with the quadratic formula.

53) $-b^2 + 10b + 75 = 0$

54) $5n^2 + 12n - 10 = 0$

Answers to Summer Assignment - Part 2

1) $\{-2\}$

2) $\{-6\}$

3) $a = -\frac{k}{-w - v}$

4) $a = \frac{b}{zm - 1}$

5) Undefined

6) -2

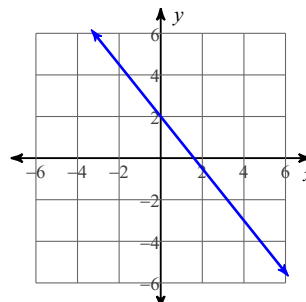
7) -2

8) $\frac{3}{4}$

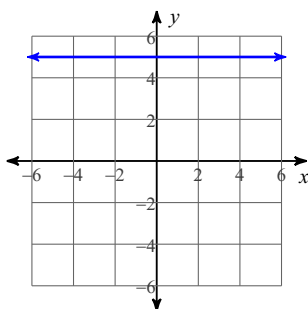
9) $-\frac{4}{3}$

10) -4

11)



12)



13) $(6, 4)$

14) Infinite number of solutions

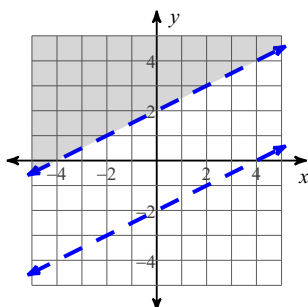
15) $(7, 1)$

16) $(-7, -5)$

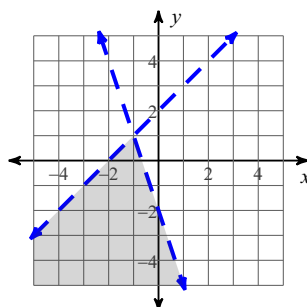
17) $(4, 4)$

18) No solution

19)



20)



21) $2\sqrt{10}$

22) $3\sqrt{5}$

23) $\sqrt{158}$ in

24) $\sqrt{65}$ ft

25) $2\sqrt{22}$ yd

26) $3\sqrt{15}$ km

27) Yes

28) No

29) Acute

30) Right

31) Acute

32) Obtuse

33) $-72\sqrt{2x}$

34) $24a\sqrt{5a}$

35) $-8\sqrt{3}$

36) $12\sqrt{6}$

37) $-4\sqrt{2} - 4$

38) $-32\sqrt{5} + 32\sqrt{3}$

39) $11 + 4\sqrt{6}$

40) $5 - 7\sqrt{5}$

41) $\frac{5\sqrt{10}}{6}$

42) $\frac{9\sqrt{5} - 3\sqrt{2}}{43}$

43) $\{3\}$

44) $\{3\}$

45) $2k(k + 3)$

46) $(x + 4)(x + 8)$

47) $\{-2\}$

48) $\{1\}$

49) $\left\{\frac{2}{3}, -\frac{2}{3}\right\}$

50) $\left\{\frac{2}{7}, -\frac{2}{7}\right\}$

51) $\{17, -1\}$

52) $\{-1 + \sqrt{3}, -1 - \sqrt{3}\}$

53) $\{-5, 15\}$

54) $\left\{\frac{-6 + \sqrt{86}}{5}, \frac{-6 - \sqrt{86}}{5}\right\}$