

SOLVE

19. $(x-3)(x+2)=0$ M0310V71 (Look at math 0310 videos)

20. $(2y+15)(5y+6)=0$ M0310V72

21. $5b(b+13)=0$ M0310V73

22. $42n^2+91n=0$ M0310V74

23. $x^2-10x+25=0$ M0310V75

24. $y^2-121=0$ M0310V76

25. $x^2-x=20$ M0310V77

26. $6b^2+25b+5=-20$ M0310V78

27. $x(x-8)=20$ M0310V79

28. $x^2=256$ M0310V80

29. $t^2+4=-4t$ M0310V81

Simplify

30. $\frac{(y+8)(y-5)}{(y-5)(y+9)}$ M0310V84

31. $\frac{3x-15}{x^2-25}$ M0310V85

32. $\frac{y^2+3y-28}{y^2+16y+63}$ M0310V86



Simplify (look at math 0310 videos)

33. $\frac{y^2 - 10y + 25}{25 - y^2}$ MO310V87

34. $\frac{a^2 - 4b^2}{20ab^2} \cdot \frac{4a^2b}{a - 2b}$ MO310V88

3.

35. $\frac{m^2 - 16}{m^2 + 3m - 28} \div \frac{m^2 - 3m - 28}{m - 4}$ MO310V89

36. $\sqrt{36}$ MO310V97

37. $\sqrt{63}$ MO310V98

38. $\sqrt{7}\sqrt{35}$ MO310V100
Evaluate

39. $f(x) = 5x^2 + 4x + 2$ MO310V32

find $f(-4)$

SOLVE (Look at Math 0320 videos)

40 $h(x) = 3x^2 - 7x - 4$ M0320V62
Find $h(-5)$

41 $|r-2| = 5$ M0320V6

42 $|x+9| < 15$ M0320V9

43 $|x+6| > 16$ M0320V10

44 $\sqrt[3]{1000}$ M0320V55

45 $\sqrt[3]{-27a^{11}b^{13}}$ M0320V56

46 $(-6-7i) + (12+4i)$ M0320V87

47 $(2-7i)(9+4i)$ M0320V88

48 $\frac{5-i}{-9+4i}$ M0320V89

49 $13 \leq 3x+1 \leq 19$ M0320V4

50 $\sqrt{x+3} = 3$ M0320V51

51 $\sqrt{7-x} = x-1$ M0320V52

52 $(x-7)^2 = 25$ M0320V92



SOLVE (Look at Math0320Videos)

53. $(x-3)(8x-3)=0$ M0320V90

54. $7x^2+19x-6=0$ M0320V91

55. $x^2+12x+20=0$ M0320V93

56. $x^2-6x+18=0$ M0320V94

57. $5x^2+8x=4$ M0320V95

58. $4x^2-3x+1=0$ M0320V96

GRAPH

59. $y=2x-2$ M0320V11

60. $2x-3y=6$ M0320V12

61. $h(x)=-3x-5$ M0320V28

62. $f(x)=\frac{1}{2}x+3$ M0320V29

63. $g(x)=x-4$ M0320V78

64. $h(x)=x^2-2$ M0320V79

65. $f(x)=|x-9|$ M0320V80

66. $f(x)=(x+4)^2-5$ M0320V81

67. $g(x)=(x-3)^2$ M0320V82

68. $f(x)=|x+3|$ M0320V83



① $m^3n^2 - m^2n^4 =$ Factor GCF

$m^2n^2(m - n^2) =$



② $5x(3x+4) - 4(3x+4)$ Factor GCF

$(3x+4)(5x-4) =$

③ $t(2-m) + 5(2-m)$ Factor GCF

$(2-m)(t+5) =$

④ $x^2 + 4x + xy + 4y =$ Factor by grouping

$(x^2 + 4x) + (xy + 4y) =$

$x(x+4) + y(x+4) =$

$(x+4)(x+y) =$

⑤ $t^2 - 8r + rt - 8t =$ Factor by grouping (7)

$$(r^2 - 8r) + (rt - 8t) =$$

$$r(r - 8) + t(r - 8) =$$

$$(r - 8)(r + t) =$$

⑥ $3(x - 2) - a(x - 2) =$ Factor

$$(x - 2)(3 - a) =$$

⑦ $18s^7t^3 + 6s^5t^4 =$

$$6s^5t^3(3s^2 + t) =$$
 Factor GCF

⑧ $9x^5y^2 - 25x^3y^2 =$ Factor

$$x^3y^2(9x^2 - 25) =$$
 GCF

$$x^3y^2((3x)^2 - (5)^2) =$$
 rewrite

$$x^3y^2(3x + 5)(3x - 5) =$$

$$a^2 - b^2 = (a + b)(a - b)$$

9) $ya - 8a + 7y - 56 =$ Factor by grouping

$$(ya - 8a) + (7y - 56) =$$

$$a(y - 8) + 7(y - 8) =$$

$$(y - 8)(a + 7) =$$

8

10) $36k^2 - 169m^2 =$

$$(6k)^2 - (13m)^2 =$$

$$(6k + 13m)(6k - 13m) =$$

Factor

6.6

13.13 possible

$$a^2 - b^2 = (a + b)(a - b)$$

11) $x^2 - 7x - 18 =$

$$(x + 2)(x - 9) =$$

Factor

18.1

9.2

6.3

possible

12) $2x^2 + 4x - 30 =$

$$2(x^2 + 2x - 15) =$$

$$2(x - 3)(x + 5) =$$

Factor

15.1

3.5

possible

13. $4x^2 + 12x + 9 =$ Factor

$(2x+3)(2x+3) =$

4.1
~~2.2~~

9.1
~~3.3~~

possibly

9

14. $15z^2 - 14z - 8 =$ Factor

$(3z-4)(5z+2) =$

15.1
~~3.5~~

8.1
~~2.4~~

possibly

15. $2x^2 - 19x + 35 =$ Factor

$(2x-5)(x-7) =$

2.1

35.1
~~5.7~~

possibly

16. $27x^2 - 117x - 90 =$ Factor

$9(3x^2 - 13x - 10) =$

$9(3x+2)(x-5) =$

3.1

10.1
~~2.5~~

possibly

17. $4x^2 - 4x - 24 =$ Factor

$4(x^2 - x - 6) =$

$4(x-2)(x+3) =$

6.1
~~2.3~~

possibly

$$(18.) \quad 2x^3 + 2x^2 - 12x = \quad \text{Factor}$$

$$2x(x^2 + x - 6) =$$

(6, 1)
2, 3 possible

10.

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

$$(19.) \quad (x-3)(x+2) = 0 \quad \text{Solve}$$

$$\text{Let } x-3=0 \quad \text{OR} \quad x+2=0$$

$$x-3+\cancel{3}=0+3 \quad \text{OR} \quad x+\cancel{2}-\cancel{2}=0-2$$

$$x=3 \quad \text{OR} \quad x=-2$$

$$(20.) \quad (2y+15)(5y+6) = 0 \quad \text{Solve}$$

$$\text{Let } 2y+15=0 \quad \text{OR} \quad 5y+6=0$$

$$2y+15-\cancel{15}=0-15 \quad \text{OR} \quad 5y+\cancel{6}-\cancel{6}=0-6$$

$$2y = -15 \quad \text{OR} \quad 5y = -6$$

$$\frac{2y}{2} = \frac{-15}{2} \quad \text{OR} \quad \frac{5y}{5} = \frac{-6}{5}$$

$$y = \frac{-15}{2} \quad \text{OR} \quad y = \frac{-6}{5}$$

(21) $5b(b+13) = 0$ Solve

Let $5b = 0$ OR $b + 13 = 0$

$\frac{5b}{5} = \frac{0}{5}$ OR $b + \cancel{13} - \cancel{13} = 0 - 13$

$b = 0$ OR $b = -13$



(22) $42n^2 + 91n = 0$ Solve

$7n(6n + 13) = 0$

Let $7n = 0$ OR $6n + 13 = 0$

$\frac{7n}{7} = \frac{0}{7}$ OR $6n + \cancel{13} - \cancel{13} = 0 - 13$

$n = 0$ OR $\frac{6n}{6} = \frac{-13}{6}$

$n = \frac{-13}{6}$

(23) $x^2 - 10x + 25 = 0$ Solve

(25.1) Possible

$(x - 5)(x - 5) = 0$

Let $x - 5 = 0$ OR $x - 5 = 0$

$x - 5 + 5 = 0 + 5$ OR $x - 5 + 5 = 0 + 5$

$x = 5$ OR $x = 5$

(24) $y^2 - 121 = 0$ Solve

$a^2 - b^2 = (a+b)(a-b)$

$(y)^2 - (11)^2 = 0$

$(y+11)(y-11) = 0$

Set $y+11=0$ OR $y-11=0$

$y+11-11=0-11$ OR $y-11+11=0+11$

$y = -11$ OR $y = 11$

11, 11 possible

12

(25) $x^2 - x = 20$ Solve

$x^2 - x - 20 = 20 - 20$

$x^2 - x - 20 = 0$

$(x+4)(x-5) = 0$

Set $x+4=0$ OR $x-5=0$

$x+4-4=0-4$ OR $x-5+5=0+5$

$x = -4$ OR $x = 5$

20, 1
10, 2
4, 5 possible

(26.) $6b^2 + 25b + 5 = -20$ Solve

$$6b^2 + 25b + 5 + 20 = -20 + 20$$

$$6b^2 + 25b + 25 = 0$$

$$(2b + 5)(3b + 5) = 0$$

Let $2b + 5 = 0$ OR $3b + 5 = 0$

$$2b + \cancel{5} - 5 = 0 - 5 \quad \text{OR} \quad 3b + \cancel{5} - 5 = 0 - 5$$

$$2b = -5 \quad \text{OR} \quad 3b = -5$$

$$\frac{2b}{2} = \frac{-5}{2} \quad \text{OR} \quad \frac{3b}{3} = \frac{-5}{3}$$

$$b = -\frac{5}{2} \quad \text{OR} \quad b = -\frac{5}{3}$$

Possible
(6,1) (2,3) (2,1) (5,5)
13.

(27.) $x(x-8) = 20$ Solve

$$x^2 - 8x = 20$$

$$x^2 - 8x - 20 = 20 - 20$$

$$x^2 - 8x - 20 = 0$$

$$(x + 2)(x - 10) = 0$$

Let $x + 2 = 0$ OR $x - 10 = 0$

$$x + 2 - 2 = 0 - 2 \quad \text{OR} \quad x - \cancel{10} + 10 = 0 + 10$$

$$x = -2 \quad \text{OR} \quad x = 10$$

Possible
(20,1) (10,2) (4,5)

$$\textcircled{28.} \quad x^2 = 256$$

Solve

$$x^2 - 256 = 256 - 256$$

$$a^2 - b^2 = (a+b)(a-b)$$

$$x^2 - 256 = 0$$

$$(x)^2 - (16)^2 = 0$$

$$\textcircled{16, 16}$$
 possible

$$(x+16)(x-16) = 0$$

$$\text{Set } x+16=0 \quad \text{OR} \quad x-16=0$$

$$x+16-16=0-16 \quad \text{OR} \quad x-16+16=0+16$$

$$\textcircled{x = -16}$$

$$\text{OR } \textcircled{x = 16}$$

$$\textcircled{29.} \quad t^2 + 4 = -4t \quad \text{Solve}$$

$$t^2 + 4 + 4t = -4t + 4t$$

$$t^2 + 4 + 4t = 0$$

$$t^2 + 4t + 4 = 0$$

$$(t+2)(t+2) = 0$$

$$\text{Set } t+2=0 \quad \text{OR} \quad t+2=0$$

$$t+2-2=0-2 \quad \text{OR} \quad t+2-2=0-2$$

$$\textcircled{t = -2}$$

$$\text{OR } \textcircled{t = -2}$$

$$\textcircled{4, 1}$$

$$\textcircled{2, 2}$$
 possible

30) $\frac{(y+8)(y-5)}{(y-5)(y+9)} = \text{simplify}$

150

$$\frac{(y+8)(y-5)}{(y-5)(y+9)} =$$

$$\frac{y+8}{y+9} =$$

31) $\frac{3x-15}{x^2-25} = \text{simplify}$

$$a^2 - b^2 = (a+b)(a-b)$$

$$\frac{3x-15}{(x)^2 - (5)^2} =$$

$$\frac{3(x-5)}{(x+5)(x-5)} =$$

$$\frac{3(x-5)}{(x+5)(x-5)} =$$

$$\frac{3}{x+5} =$$

32 $\frac{y^2 + 3y - 28}{y^2 + 16y + 63} =$ Simplify

$$\frac{(y-4)(y+7)}{(y+7)(y+9)} =$$

$$\frac{y-4}{y+9} =$$

possible

28.1	63.1
14.2	9.7
4.7	21.3

16

33 $\frac{y^2 - 10y + 25}{25 - y^2} =$ Simplify

$$\frac{(y-5)(y-5)}{(5)^2 - (y)^2} =$$

$$\frac{(y-5)(y-5)}{(5+y)(5-y)} =$$

$$\frac{(y-5)(y-5)}{(y+5)(-y+5)} = \text{rewrite}$$

$$\frac{(y-5)(y-5)}{(y+5)(-1)(y-5)} = \text{rewrite}$$

$$\frac{(y-5)}{(y+5)(-1)} =$$

$$a^2 - b^2 = (a+b)(a-b)$$

$$= -1 \frac{y-5}{y+5} =$$

$$\frac{-1(y-5)}{y+5} =$$

$$\frac{-y+5}{y+5} =$$

$$\textcircled{34.} \frac{a^2 - 4b^2}{20ab} \cdot \frac{4a^2b}{a-2b} =$$

$$\frac{(a)^2 - (2b)^2}{20ab^2} \cdot \frac{4a^2b}{a-2b} =$$

$$\frac{(a+2b)(a-2b)}{20a^1b^2} \cdot \frac{4a^2b^1}{(a-2b)} =$$

$$\frac{(a+2b)4a^2b^1}{20a^1b^2} =$$

$$\frac{(a+2b) \cancel{4} a^{2-1}}{(\cancel{4})(5) b^{2-1}} =$$

$$\frac{(a+2b) a^1}{5 b^1} =$$

$$\frac{a^2 + 2ab}{5b} =$$

$$\textcircled{35.} \frac{m^2 - 16}{m^2 + 3m - 28} \div \frac{m^2 - 3m - 28}{m - 4} =$$

Simplify

$\textcircled{18.}$

$$\frac{(m)^2 - (4)^2}{m^2 + 3m - 28} \cdot \frac{m - 4}{m^2 - 3m - 28} =$$

$\textcircled{16.1}$
 $\textcircled{4.4}$

$\textcircled{28.1}$
 $\textcircled{14.2}$
 $\textcircled{4.7}$

possible

$$\frac{\cancel{(m+4)}(m-4)}{(m-4)\cancel{(m+7)}} \cdot \frac{(m-4)}{\cancel{(m+4)}(m-7)} =$$

$$\frac{(m-4)}{(m+7)(m-7)} =$$

$$\textcircled{36.} \sqrt{36} =$$

$$\sqrt{6^2} =$$

$$6^1 =$$

$$\textcircled{6} =$$

Use Factor
Primes 2, 3, 5, 7, 11, 13, ...

$$\textcircled{37.} \sqrt{63} =$$

$$\sqrt{9 \cdot 7} =$$

$$\sqrt{9} \sqrt{7} =$$

$$\textcircled{3\sqrt{7}} =$$

$$\begin{array}{r} 3 \overline{)63} \\ 3 \overline{)21} \\ 7 \overline{)7} \\ 1 \end{array}$$

$$(38) \sqrt{7} \sqrt{35} =$$

$$\sqrt{7 \times 35} =$$

$$\sqrt{245} =$$

$$\sqrt{49 \times 5} =$$

$$\sqrt{49} \sqrt{5} =$$

$$7\sqrt{5} =$$

$$\begin{array}{r} 5 \overline{) 245} \\ \underline{7} \\ 70 \\ \underline{70} \\ 0 \end{array}$$

(9)

$$(39) f(x) = 5x^2 + 4x + 2 \quad \text{find } f(-4)$$

$$f(-4) = 5(-4)^2 + 4(-4) + 2$$

$$f(-4) = 5(-4)(-4) + 4(-4) + 2$$

$$f(-4) = 5(16) + 4(-4) + 2$$

$$f(-4) = 80 - 16 + 2$$

$$f(-4) = 64 + 2$$

$$f(-4) = 66$$

OR $(-4, 66)$

(40) $h(x) = 3x^2 - 7x - 4$ find $h(-5)$

$$h(-5) = 3(-5)^2 - 7(-5) - 4$$

$$h(-5) = 3(-5)(-5) - 7(-5) - 4$$

$$h(-5) = 3(25) - 7(-5) - 4$$

$$h(-5) = 75 + 35 - 4$$

$$h(-5) = 110 - 4$$

$$h(-5) = 106$$

OR $(-5, 106)$

20.

(41) $|r-2| = 5$

$$|x| = a$$

$x = -a$ OR $x = a$

$$r-2 = -5 \quad \text{OR}$$

$$r-2 = 5$$

$$r-2+2 = -5+2 \quad \text{OR} \quad r-2+2 = 5+2$$

$$r = -3$$

OR $r = 7$

$$(42) |x+9| < 15$$

$$-15 < x+9 < 15$$

$$-15-9 < x+9-9 < 15-9$$

$$-24 < x < 6$$

$$|x| < a$$
$$-a < x < a$$

21.



$$(-24, 6)$$

$$(43) |x+6| > 16$$

$$x+6 < -16 \text{ OR } x+6 > 16$$

$$x+6-6 < -16-6 \text{ OR } x+6-6 > 16-6$$

$$x < -22 \text{ OR } x > 10$$

$$|x| > a$$
$$x < -a \text{ OR } x > a$$



$$(-\infty, -22) \cup (10, +\infty)$$

$$(44) \sqrt[3]{1000} = 1000 = 10^3$$

22

$$\sqrt[3]{10^3} =$$

$$10^1 =$$

$$10 =$$

$$(45) \sqrt[3]{-27a^{11}b^{13}} =$$

$$\begin{array}{r} 3 \overline{) 27} \\ \underline{3 \overline{) 9}} \\ \underline{3 \overline{) 3}} \\ 1 \end{array}$$

$$\sqrt[3]{(-3)^3 a^9 a^2 b^{12} b^1} =$$

$$(-3)^1 a^3 b^4 \sqrt[3]{a^2 b^1} =$$

$$-3a^3 b^4 \sqrt[3]{a^2 b^1} =$$

$$(46) (-6 - 7i) + (12 + 4i) =$$

$$-6 - 7i + 12 + 4i =$$

$$-3i + 6 =$$

formula

$$i^2 = -1$$

$$(47) (2 - 7i)(9 + 4i) =$$

$$18 + 8i - 63i - 28i^2 =$$

$$18 - 53i - 28i^2 =$$

$$18 - 53i - 28(-1) =$$

$$18 - 53i + 28 =$$

$$46 - 53i =$$

$$(48) \quad \frac{5-i}{-9+4i} =$$

$$\left(\frac{5-i}{-9+4i} \right) \left(\frac{-9-4i}{-9-4i} \right) = \text{mult}$$

$$\frac{-45 - 20i + 9i + 4i^2}{81 + 36i - 36i - 16i^2} =$$

$$\frac{-45 - 29i + 4i^2}{81 - 16i^2} =$$

$$\frac{-45 - 29i + 4(-1)}{81 - 16(-1)} =$$

$$\frac{-45 - 29i - 4}{81 + 16} =$$

$$\frac{-49 - 29i}{97} =$$

$$\frac{-49}{97} - \frac{29}{97}i =$$

23.

formula

$$i^2 = -1$$

(49) $13 \leq 3x+1 \leq 19$

Solve

$13-1 \leq 3x+1-1 \leq 19-1$

$12 \leq 3x \leq 18$

$\frac{12}{3} \leq \frac{3x}{3} \leq \frac{18}{3}$

$4 \leq x \leq 6$

(24)



$[4, 6]$

(50) $\sqrt{x+3} = 3$

Solve

$(\sqrt{x+3})^2 = (3)^2$

$x+3 = 9$

$x+3-3 = 9-3$

$x = 6$

Solve

Let $x+2=0$ OR $x-3=0$

$x+2-2=0-2$ OR $x-3+3=0+3$

~~$x=-2$~~ OR $x=3$

ck

ck

$\sqrt{7-(-2)} = (-2)-1$ / $\sqrt{7-(3)} = (3)-1$

$\sqrt{7+2} = -2-1$

$\sqrt{7-3} = 3-1$

$\sqrt{9} = -3$

$\sqrt{4} = 2$

$3 \neq -3$

$2 = 2$

BAD

Good



Only
 $\{3\}$

(51) $\sqrt{7-x} = x-1$

$(\sqrt{7-x})^2 = (x-1)^2$

$7-x = (x-1)(x-1)$

$7-x = x^2 - 1x - 1x + 1$

$7-x = x^2 - 2x + 1$

$0 = x^2 - 2x + 1 - 7 + x$

$0 = x^2 - x - 6$

$0 = (x+2)(x-3)$

(52) $(x-7)^2 = 25$ Solve

$$\sqrt{(x-7)^2} = \pm\sqrt{25}$$

$$x-7 = \pm 5$$

$$x-7 = -5 \quad \text{OR} \quad x-7 = 5$$

$$x-7+7 = -5+7 \quad \text{OR} \quad x-7+7 = 5+7$$

$$x = 2 \quad \text{OR} \quad x = 12$$

25

(53) $(x-3)(8x-3) = 0$ Solve

$$\text{Let } x-3=0 \quad \text{OR} \quad 8x-3=0$$

$$x-3+3=0+3 \quad \text{OR} \quad 8x-3+3=0+3$$

$$x=3 \quad \text{OR} \quad 8x=3$$

$$\text{OR} \quad \frac{8x}{8} = \frac{3}{8}$$

Solve

$$x = \frac{3}{8}$$

(54) $7x^2 + 19x - 6 = 0$

$$(7x-2)(x+3) = 0$$

(7.1) (6.1) (2.3) Possibly

$$\text{Let } 7x-2=0 \quad \text{OR} \quad x+3=0$$

$$7x-x+x=0+2 \quad \text{OR} \quad x+3-3=0-3$$

$$7x=2 \quad \text{OR} \quad x=-3$$

$$\frac{7x}{7} = \frac{2}{7} \quad \text{OR}$$

$$x = \frac{2}{7}$$

$$(55) \quad x^2 + 12x + 20 = 0$$

$$(x+2)(x+10) = 0$$

$$\text{Let } x+2=0 \quad \text{OR} \quad x+10=0$$

$$x+2-2=0-2 \quad \text{OR} \quad x+10-10=0-10$$

$$x = -2 \quad \text{OR} \quad x = -10$$

Solve by factoring

$$\begin{array}{r} 20 \quad 1 \\ \hline 10 \cdot 2 \\ \hline 5 \cdot 4 \end{array}$$

26.

OR USE Quadratic formula

$$x^2 + 12x + 20 = 0$$

$$a=1, \quad b=12, \quad c=20$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(12) \pm \sqrt{(12)^2 - 4(1)(20)}}{2(1)}$$

$$x = \frac{-12 \pm \sqrt{144 - 80}}{2}$$

$$x = \frac{-12 \pm \sqrt{64}}{2}$$

$$x = \frac{-12 \pm 8}{2}$$

$$x = -6 \pm 4$$

$$x = -6 - 4 \quad \text{OR} \quad x = -6 + 4$$

$$x = -10 \quad \text{OR} \quad x = -2$$

56. $x^2 - 6x + 18 = 0$ Solve use Quad formula

$$a=1, b=-6, c=18$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4(1)(18)}}{2(1)}$$

$$x = \frac{6 \pm \sqrt{36 - 72}}{2}$$

$$x = \frac{6 \pm \sqrt{-36}}{2}$$

$$x = \frac{6 \pm 6i}{2}$$

$$x = 3 \pm 3i$$

$$x = 3 - 3i \quad \text{OR}$$

$$x = 3 + 3i$$

27.

57. $5x^2 + 8x = 4$ Solve (use Quadratic formula)

$$5x^2 + 8x - 4 = 0$$

$$a=5, b=8, c=-4$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(8) \pm \sqrt{(8)^2 - 4(5)(-4)}}{2(5)}$$

$$x = \frac{-8 \pm \sqrt{64 + 80}}{10}$$

$$x = \frac{-8 \pm \sqrt{144}}{10}$$

$$x = \frac{-8 \pm 12}{10}$$

$$x = \frac{-8 - 12}{10} \quad \text{OR} \quad x = \frac{-8 + 12}{10}$$

$$x = \frac{-20}{10}$$

$$\text{OR} \quad x = \frac{4}{10}$$

$$\text{OR} \quad x = \frac{\cancel{2}(2)}{\cancel{2}(5)}$$

$$x = -2$$

$$x = \frac{2}{5}$$

28.

59. $y = 2x - 2$ graph

$y = 2(0) - 2$

$y = 0 - 2$

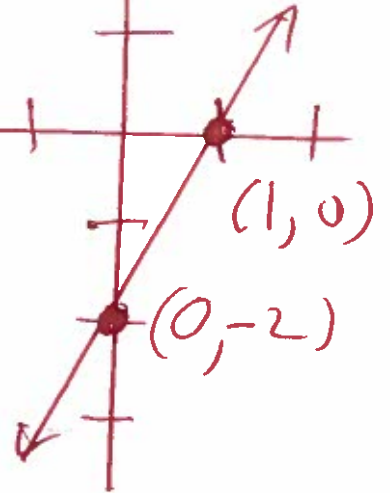
$y = -2$

$y = 2(1) - 2$

$y = 2 - 2$

$y = 0$

X	Y
0	-2
1	0



60. $2x - 3y = 6$ graph

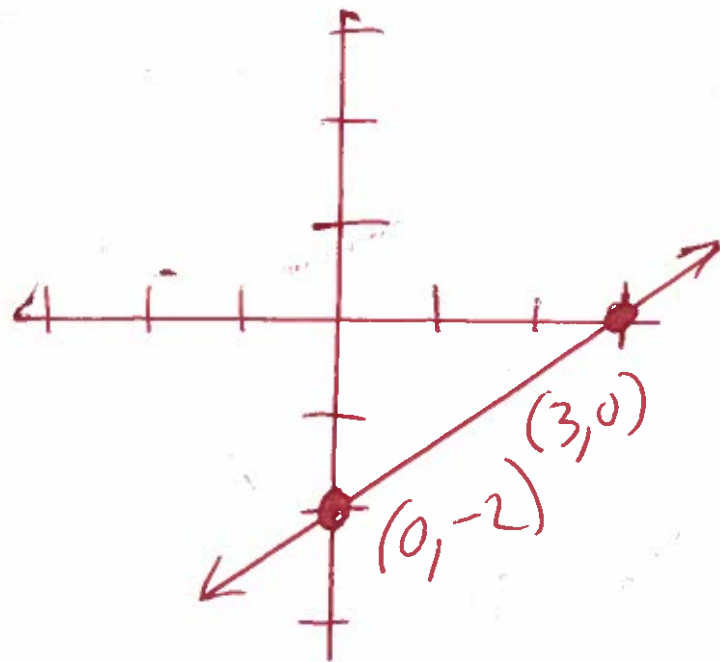
$2x - 3y - 2x = 6 - 2x$

$-3y = 6 - 2x$

$\frac{-3y}{-3} = \frac{6}{-3} - \frac{2x}{-3}$

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

X	Y
0	-2
3	0



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

$y = \frac{2}{3}(0) - 2$ $y = \frac{2}{3}(3) - 2$

$y = 0 - 2$

$y = 2 - 2$

$y = -2$

$y = 0$

(61) $h(x) = -3x - 5$ graph

$h(0) = -3(0) - 5$

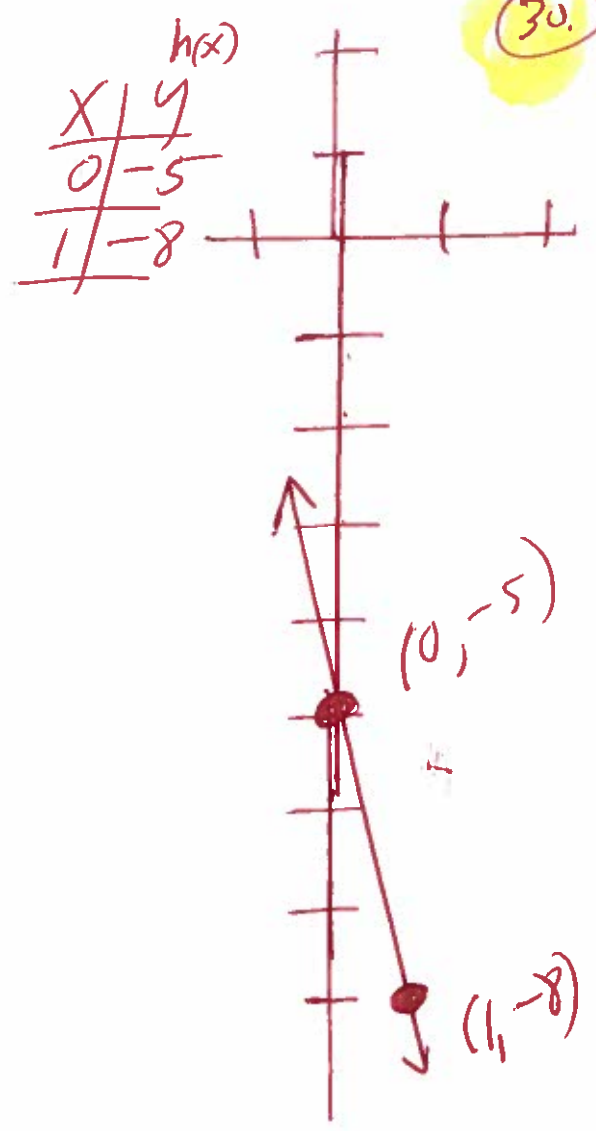
$h(0) = 0 - 5$

$h(0) = -5$

$h(1) = -3(1) - 5$

$h(1) = -3 - 5$

$h(1) = -8$



(62) $f(x) = \frac{1}{2}x + 3$

$f(0) = \frac{1}{2}(0) + 3$

$f(0) = 0 + 3$

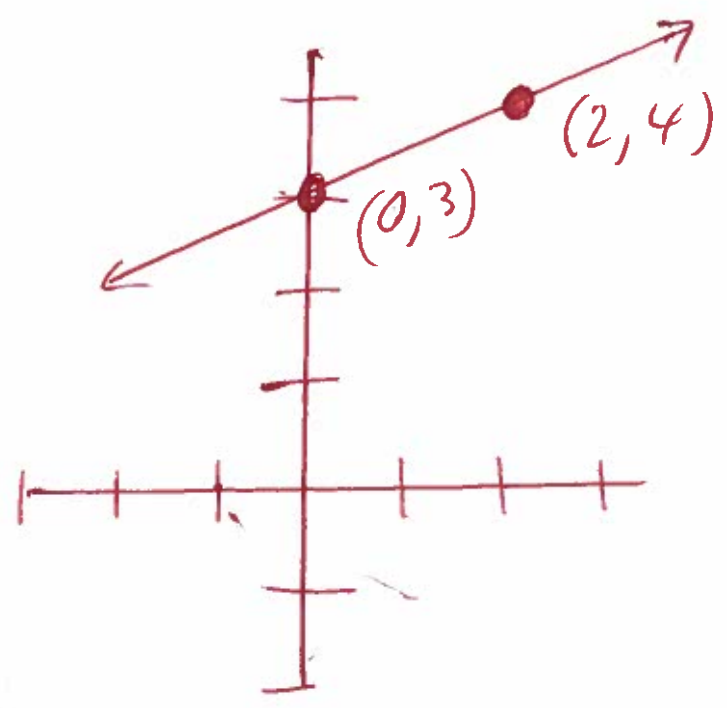
$f(0) = 3$

$f(2) = \frac{1}{2}(2) + 3$

$f(2) = 1 + 3$

$f(2) = 4$

X	Y
0	3
2	4



63) $g(x) = x - 4$ graph

$$g(0) = (0) - 4$$

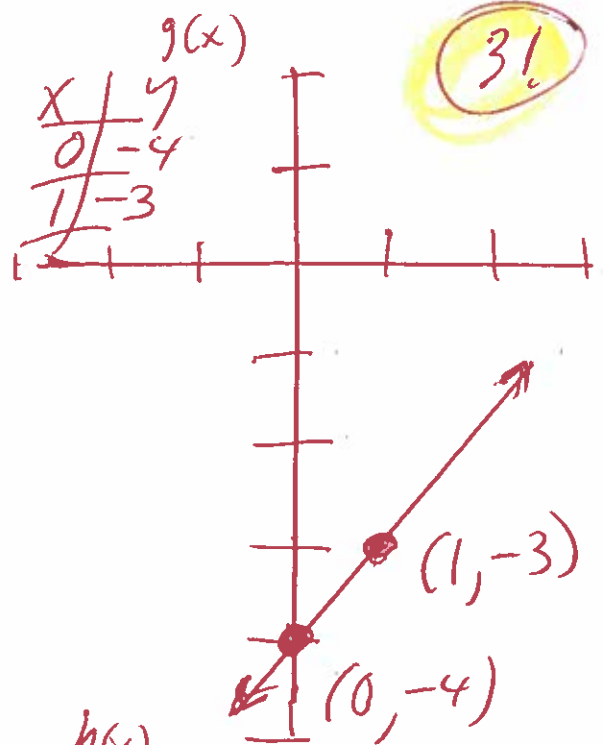
$$g(0) = 0 - 4$$

$$g(0) = -4$$

$$g(1) = (1) - 4$$

$$g(1) = 1 - 4$$

$$g(1) = -3$$



64) $h(x) = x^2 - 2$ graph

$$h(-1) = (-1)^2 - 2$$

$$h(-1) = (-1)(-1) - 2$$

$$h(-1) = 1 - 2$$

$$h(-1) = -1$$

$$h(0) = (0)^2 - 2$$

$$h(0) = (0)(0) - 2$$

$$h(0) = 0 - 2$$

$$h(0) = -2$$

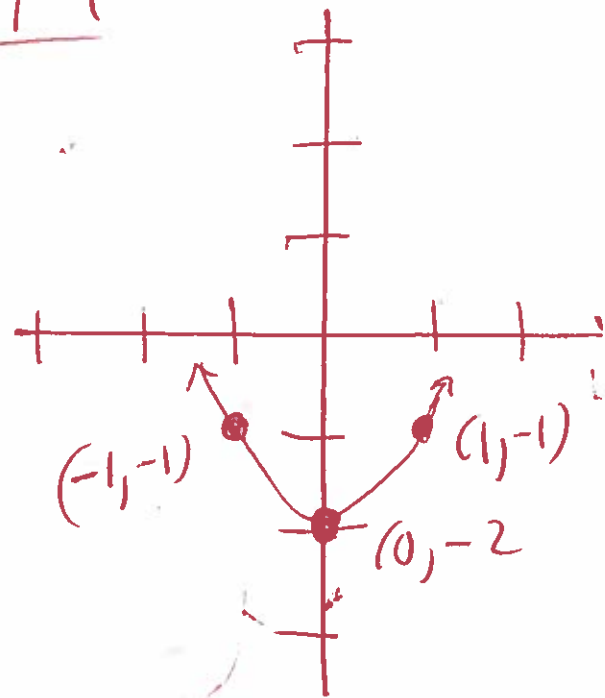
$$h(1) = (1)^2 - 2$$

$$h(1) = (1)(1) - 2$$

$$h(1) = 1 - 2$$

$$h(1) = -1$$

x	y
-1	-1
0	-2
1	-1



65 $f(x) = |x-9|$ graph

X	f(x)
8	1
9	0
10	1

32

$$f(8) = |8-9|$$

$$f(8) = |-1|$$

$$f(8) = 1$$

$$f(9) = |9-9|$$

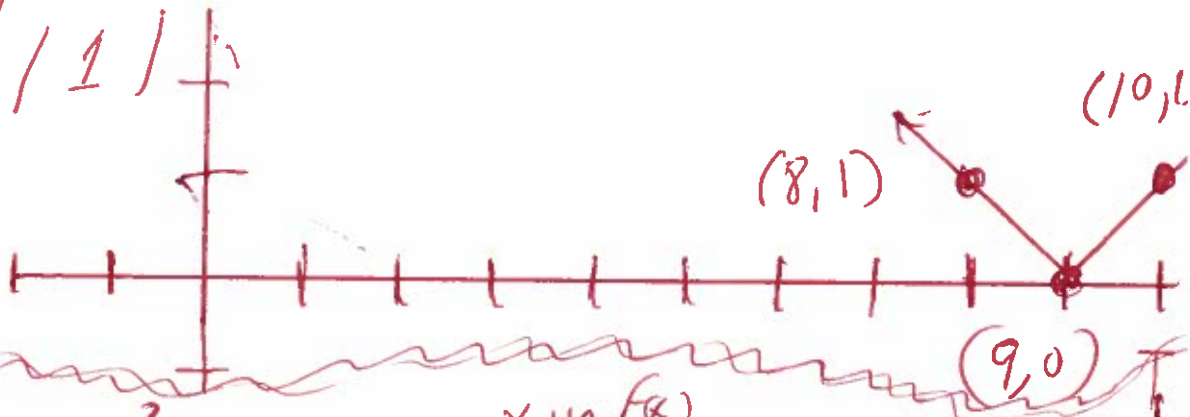
$$f(9) = |0|$$

$$f(9) = 0$$

$$f(10) = |10-9|$$

$$f(10) = |1|$$

$$f(10) = 1$$



66 $f(x) = (x+4)^2 - 5$

X	y	f(x)
-5	-4	
-4	-5	
-3	-4	

$$f(-5) = (-5+4)^2 - 5$$

$$f(-5) = (-1)^2 - 5$$

$$f(-5) = (-1)(-1) - 5$$

$$f(-5) = 1 - 5$$

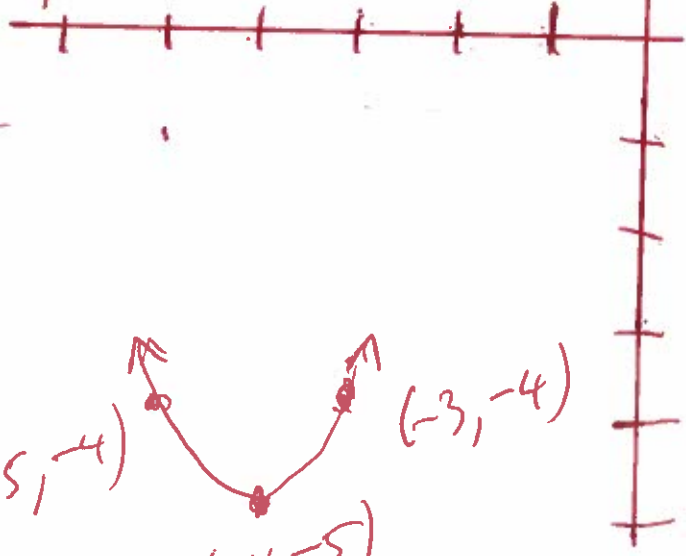
$$f(-5) = -4$$

$$f(-3) = (-3+4)^2 - 5$$

$$f(-3) = (1)^2 - 5$$

$$f(-3) = (1)(1) - 5$$

$$f(-3) = 1 - 5$$



$$f(-4) = (-4+4)^2 - 5$$

$$f(-4) = (0)^2 - 5$$

$$f(-4) = (0)(0) - 5$$

$$f(-4) = 0 - 5$$

$$f(-4) = -5$$

$$f(-3) = -4$$

67) $g(x) = (x-3)^2$ graph

$$g(2) = (2-3)^2$$

$$g(2) = (-1)$$

$$g(2) = (-1)(-1)$$

$$g(2) = 1$$

$$g(3) = (3-3)^2$$

$$g(3) = (0)^2$$

$$g(3) = (0)(0)$$

$$g(3) = 0$$

$$g(4) = (4-3)^2$$

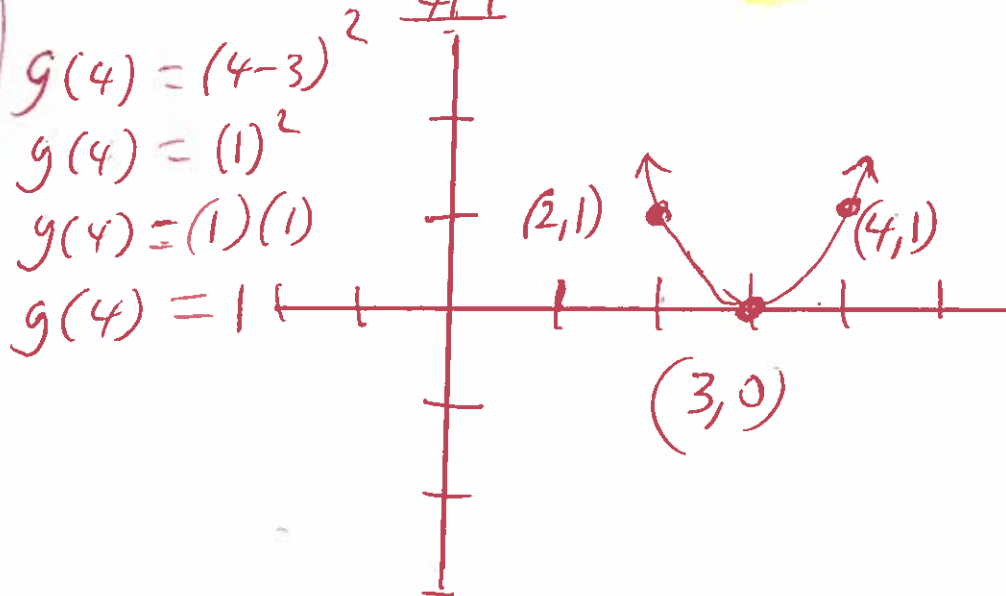
$$g(4) = (1)^2$$

$$g(4) = (1)(1)$$

$$g(4) = 1$$

x	y
2	1
3	0
4	1

33



68) $f(x) = |x+3|$ graph

$$f(-4) = |-4+3|$$

$$f(-4) = |-1|$$

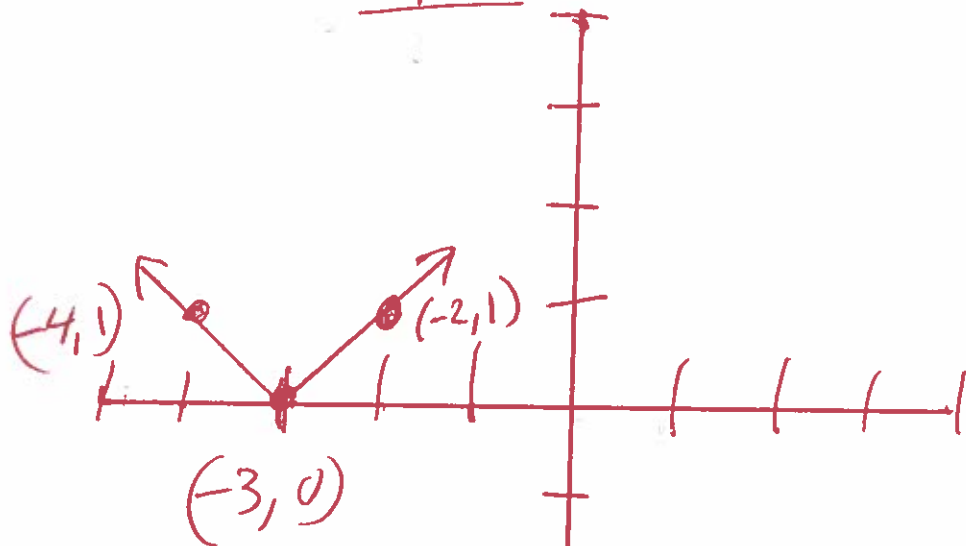
$$f(-4) = 1$$

$$f(-3) = |-3+3|$$

$$f(-3) = |0|$$

$$f(-3) = 0$$

x	y
-4	1
-3	0
-2	1



$$f(-2) = |-2+3|$$

$$f(-2) = |1|$$

$$f(-2) = 1$$