

**Evaluate Algebraic Expressions. Keep in mind that  $(-2)^2 = 4$  and  $-2^2 = -4$ .**

- Evaluate  $-x^2 + 3x$  when  $x = 2$       $-(2)^2 + 3(2) = -4 + 6 = \boxed{2}$
- Evaluate  $2x^2 - x + 1$  when  $x = -1$ .      $2(-1)^2 - (-1) + 1 = 2 + 1 + 1 = \boxed{4}$
- Evaluate  $6 - b^2$  when  $b = 5$ .      $6 - 25 = \boxed{-19}$
- Evaluate  $3d^2 + 4d$  when  $d = -2$ .      $3(4) - 8 = \boxed{4}$

**Simplify Algebraic Expressions. Remember to distribute the negative sign to both terms in parenthesis.**

- $3t + 5t^2 - 2t + 6t^2 = \boxed{11t^2 + t}$
- $7(q - 2) + 5q + 14 = 7q - 14 + 5q + 14 = \boxed{12q}$
- $-4(m - 2) + 3(m + 1) = -4m + 8 + 3m + 3 = \boxed{-m + 11}$
- $8d + 2d^2 - 3(d + d^2) = 8d + 2d^2 - 3d - 3d^2 = \boxed{-d^2 + 5d}$






**Solve Equations for Unknown.**

- $-6t - 5 = 13$       $-6t = 18$       $t = \boxed{-3}$
- $5a - 1 = 2a + 11$       $3a = 12$       $a = \boxed{4}$
- $-2m + 3 = 7m - 6$       $9m = 9$       $m = \boxed{1}$
- $4(2x - 1) = 3(x + 2)$       $8x - 4 = 3x + 6$       $5x = 10$       $x = \boxed{2}$
- $5(x + 3) = -(x - 3)$       $5x + 15 = -x + 3$       $6x = -12$       $x = \boxed{-2}$
- $\frac{1}{4}x + \frac{1}{2}x = 39$       $x + 2x = 156$       $3x = 156$       $x = \boxed{52}$
- $\left(\frac{2}{3}x + \frac{5}{6} = x - \frac{1}{2}\right)$       $4x + 5 = 6x - 3$       $2x = 8$       $x = \boxed{4}$

**Rewrite Formulas and Equations.**

- Solve the formula  $C = 2\pi r$  for  $r$ .      $r = \frac{C}{2\pi}$
- Solve the formula  $P = 2l + 2w$  for  $w$ .      $w = \frac{P - 2l}{2}$
- Solve  $ab + bc = d$  for  $b$ .  
 $b(a + c) = d$       $b = \frac{d}{a + c}$

**Solve Linear Inequalities. Then graph the solution. Remember to reverse the inequality when multiplying or dividing by a negative number!**

19.  $7x - 12 \leq -x + 4$       $8x \leq 16$       $x \leq 2$      
20.  $-8x + 9 > 2x - 1$       $-10x > -10$       $x < 1$      
21.  $0 < 3x - 6 \leq 3$       $6 < 3x \leq 9$       $2 < x \leq 3$      
22.  $-5 \leq 2x + 5 \leq -1$       $-10 \leq 2x \leq -6$       $-5 \leq x \leq -3$      
23.  $2x + 3 < 7$  or  $x - 2 \geq 4$       $x < 2$  OR  $x \geq 6$      
- $2x < 4$       $x \geq 6$   
 $x < 2$

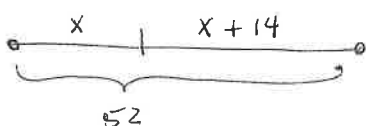
**Solve Absolute value Equations and Inequalities. Remember that what is in the absolute value can be positive or negative, so write 2 equations/inequalities for every one absolute value equation/inequality. Check your work and discard extraneous solutions.**

Example:  $|x + 3| = 7$      Solution:  $(x + 3) = 7$  or  $-(x + 3) = 7$   
 $x + 3 = -7$   
 $x = 10$  or  $x = -10$

24.  $|2x - 5| = 9$       $2x - 5 = 9$      OR      $2x - 5 = -9$       $x = -2$  OR  $7$   
 $2x = 14, x = 7$       $2x = -4, x = -2$
25.  $|3x + 3| = 6x$       $3x + 3 = 6x$      OR      $3x + 3 = -6x$       $x = 1$   
 $3 = 3x, x = 1$       $3 = -9x, x = -\frac{1}{3}$
26.  $|x - 3| > 5$       $x - 3 > 5$      OR      $x - 3 < -5$       $x < -2$  OR  $x > 8$   
 $x > 8$       $x < -2$
27.  $|2x + 1| \geq 5$       $2x + 1 \geq 5$      OR      $2x + 1 \leq -5$       $x \leq -3$  OR  $x \geq 2$   
 $2x \geq 4, x \geq 2$       $2x \leq -6, x \leq -3$
28.  $|x - 6| \leq 4$       $-4 \leq x - 6 \leq 4$       $2 \leq x \leq 10$
29.  $|x + 7| < 2$       $-2 < x + 7 < 2$       $-9 < x < -5$

**Use Problem Solving Strategies and Models to Solve Word Problems.**

30. The perimeter of a rectangular city park is 1080 yards. The width of the park is 240 yards. What is the length of the park?  $480 + 2l = 1080$       $l = 300$  yd  
 $2l = 600$
31. A train travels at a rate of 44 miles per hour. How long will it take the train to travel 154 miles?  $rt = d$       $44t = 154$       $t = 3.5$  hr
32. A piece of fabric is 52 inches long. You cut the fabric into two pieces. The first piece is  $x$  inches long. The second piece is 14 inches longer than the first piece. Draw and label a diagram of the fabric. Then write and solve an equation to find  $x$ .



3      $x + x + 14 = 52$       $x = 19$  in  
 $2x + 14 = 52$   
 $\quad -14$   
 $2x = 38$

**Find Slope.** Note slope  $= \frac{y_2 - y_1}{x_2 - x_1}$ . Parallel lines have same slope and perpendicular lines have opposite reciprocal slope.

33. What is the slope of the line passing through the points (0, 0) and (1, 3)?

$$m = 3$$

34. What is the slope of the line passing through the points (2, 1) and (3, -1)?

$$\frac{1 - (-1)}{2 - 3} = -2$$

35. Tell whether the lines are parallel, perpendicular, or neither.

Line 1: through (-1, -1) and (1, 3)  $(3 + 1) / (1 + 1) = 2$

Line 2: through (-2, -2) and (1, 4)  $6/3 = 2$

36. Tell whether the lines are parallel, perpendicular, or neither.

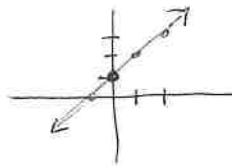
Line 1: through (1, 5) and (0, 3)  $2$

Line 2: through (2, -3) and (0, 1)  $\frac{-4}{2} = -2$

**Graph Equations**

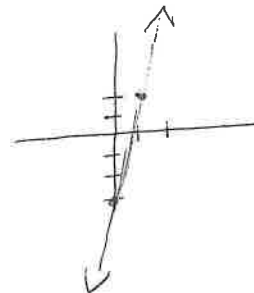
37.  $y = x + 1$

(37)



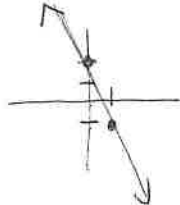
38.  $y = 5x - 3$

(38)



39.  $y = -3x + 2$

(39)

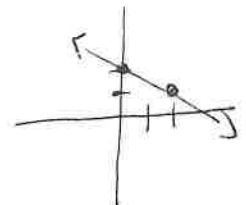


40.  $x + 2y = 4$

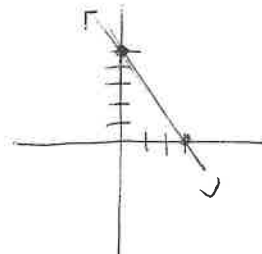
(40)

$$2y = -x + 4$$

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

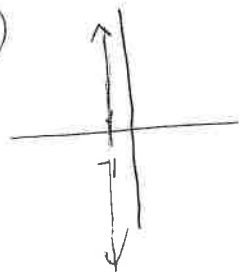


41.  $5x + 3y = 15$



42.  $x = -1$

(42)



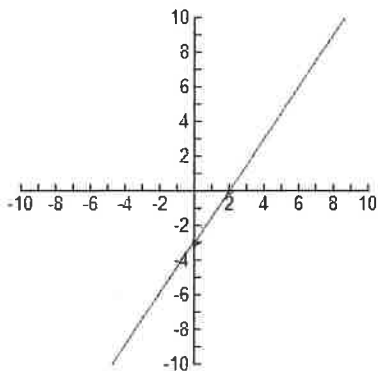
43.  $y = 4$

(41)

$$3y = -5x + 15$$

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

44. Find an equation for the line in this graph.

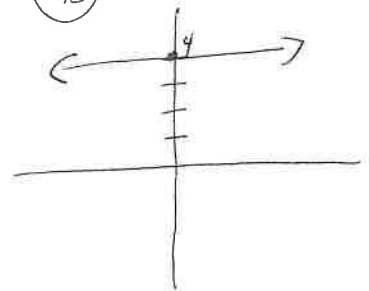


$$b = -3$$

$$m = \frac{3}{2}$$

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

(43)



$$(46) y - (-2) = -5(x - 3)$$

$$y + 2 = -5x + 15$$

$$y = -5x + 13$$

$$(47) m = -1$$

$$y - 3 = -1(x - 2)$$

$$y - 3 = -x + 2$$

$$y = -x + 5$$

$$(48) m = -\frac{1}{2}$$

$$y - y_1 = m(x - x_1)$$

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

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

### Write Equations of Lines

The **point-slope form** of the equation of a line is given by  $y - y_1 = m(x - x_1)$ , where  $m$  is the slope and  $(x_1, y_1)$  is a point on the line.

The **slope intercept form** of the equation of a line is  $y = mx + b$ .

45. Write an equation of a line with a slope of 4 and a y-intercept of -1  $y = 4x - 1$
46. Write an equation of a line with a slope of -5 that passes through the point (3, -2).
47. Write an equation of a line passing through (2, 3) and parallel to  $y = -x + 3$ .
48. Write an equation of a line passing through (0, 1) and perpendicular to  $y = 2x + 1$ .
49. Write an equation of a line passing through points (1, -1), and (4, 2).

### Solve Linear Systems.

$$m = \frac{2 + 1}{4 - 1} = 1$$

$$y - 2 = 1(x - 4)$$

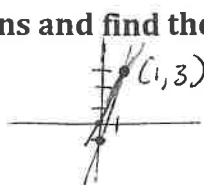
$$y = x - 2$$

### Graph the equations and find the point of intersection.

50.  $y = 4x - 1$

$y = 3x$

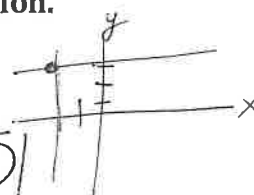
$$(1, 3)$$



51.  $x = -2$

$y = 3$

$$(-2, 3)$$



### Solve using the substitution method.

#### EXAMPLE:

$6x + 3y = 12$  Equation 1

$3x + y = 5$  Equation 2

Solution:

STEP 1: Solve Equation 2 for  $y$ .

$$y = 5 - 3x$$

STEP 2: Substitute the expression for  $y$  into Equation 1 and solve for  $x$ .

$$6x + 3(5 - 3x) = 12$$

Substitute  $5 - 3x$  for  $y$ .

$$x = 1$$

Solve for  $x$ .

STEP 3: Substitute the value of  $x$  into Equation 2 and solve for  $y$ .

$$3(1) + y = 5$$

Substitute 1 for  $x$ .

$$y = 2$$

Solve for  $y$ .

The solution is (1, 2).

52.  $2x + y = 4$   $y = 4 - 2x$

$3x - 5y = 6$

$$3x - 5(4 - 2x) = 6$$

$$3x - 20 + 10x = 6$$

$$13x - 20 = 6$$

$$13x = 26$$

$$\begin{cases} x = 2 \\ y = 0 \end{cases}$$

53.  $3x + 6y = 3$

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

$$3(2y + 5) + 6y = 3$$

$$6y + 15 + 6y = 3$$

$$12y + 15 = 3$$

$$12y = -12$$

$$y = -1; x = 3$$

$$(3, -1)$$

**Solve using the elimination method.**

**EXAMPLE:**

$x + 5y = 13$  Equation 1

$-4x - 7y = -13$  Equation 2

Solution:

STEP 1: Multiply Equation 1 by 4 so that the coefficients of  $x$  differ only in sign.

$$\begin{array}{r} x + 5y = 13 \qquad \qquad \qquad \times 4 \qquad \qquad \qquad 4x + 20y = 52 \\ -4x - 7y = -13 \qquad \qquad \qquad \qquad \qquad \qquad \qquad -4x - 7y = -13 \\ \hline \end{array}$$

STEP 2: Add the revised equations and solve for  $y$ .  $13y = 39$   
 $y = 3$

STEP 3: Substitute the value of  $y$  into Equation 1 and solve for  $x$ .

$x + 5(3) = 13$       Substitute 3 for  $y$  in Equation 1.  
 $x = -2$       Solve for  $x$ .

The solution is  $(-2, 3)$ .

54.  $\begin{cases} 7x + 2y = -5 \\ 3x - 4y = -7 \end{cases}$        $\begin{cases} 14x + 4y = -10 \\ 3x - 4y = -7 \end{cases}$       55.  $\begin{cases} 5x - 6y = 4 \\ 2(2x + 3y = 7) \end{cases}$        $\begin{cases} 5x - 6y = 4 \\ 4x + 6y = 14 \end{cases}$

$-3 - 4y = -7$   
 $-4y = -4$   
 $y = 1$

$17x = -17$   
 $x = -1$   
 **$(-1, 1)$**

$9x = 18$   
 $x = 2$   
 $10 - 6y = 4$   
 $-6y = -6$   
 $y = 1$

**$(2, 1)$**

**Solve Quadratic Equations by Factoring.**

**EXAMPLE 1**

**Factor trinomials of the form  $x^2 + bx + c$**

Factor the expression  $w^2 - 2w - 15$ .

**Solution**

You want  $w^2 - 2w - 15 = (w + m)(w + n)$  where  $mn = -15$  and  $m + n = -2$ .

Factors of $-15: m, n$	$-1, 15$	$1, -15$	$-3, 5$	$3, -5$
Sum of factors: $m + n$	$14$	$-14$	$2$	$-2$

Notice that  $m = 3$  and  $n = -5$ . So,  $w^2 - 2w - 15 = (w + 3)(w - 5)$ .

**EXAMPLE 2**

**Factor with special patterns**

Factor the expression.

a.  $g - 20g + 100 = g^2 - 2(g)(10) + 10^2$   
 $= (g - 10)^2$

Perfect square trinomial

b.  $z^2 - 64 = z^2 - 8^2$   
 $= (z + 8)(z - 8)$

Difference of two squares

Factor:

$$56. y^2 + 3y - 4 \quad (y + 4) (y - 1)$$

$$57. j^2 - 11j + 30 \quad (j - 5) (j - 6)$$

$$58. s^2 + s - 5 \quad (s) (s) \quad \boxed{\text{not factorable}}$$

$$59. s^2 - 4 \quad (s - 2) (s + 2)$$

$$60. d^2 + 14d + 49 \quad (d + 7)^2$$

$$61. 25a^2 - k^2 \quad (5a + k) (5a - k)$$

Simplify Square roots, Rationalize Denominator, Add, Subtract, and Multiply Square Roots

$$62. \sqrt{147} = \sqrt{49 \cdot 3} = \boxed{7\sqrt{3}}$$

$$63. \sqrt{200} = \sqrt{100 \cdot 2} = \boxed{10\sqrt{2}}$$

$$64. \sqrt{5} \cdot \sqrt{50} \quad \sqrt{5} \cdot 5\sqrt{2} = \boxed{5\sqrt{10}}$$

$$65. 2 \cdot 3\sqrt{5} \quad \boxed{6\sqrt{5}}$$

$$66. \sqrt{\frac{13}{121}} = \boxed{\frac{\sqrt{13}}{11}}$$

$$67. \sqrt{\frac{7}{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \boxed{\frac{\sqrt{35}}{5}}$$

$$68. \sqrt{50} + \sqrt{8} = 5\sqrt{2} + 2\sqrt{2} = \boxed{7\sqrt{2}}$$

$$69. \sqrt{27} - \sqrt{3} = 3\sqrt{3} - \sqrt{3} = \boxed{2\sqrt{3}}$$

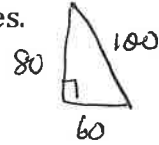
**Solve Quadratic Equations by Finding Square Roots**

70.  $-9d^2 = -405$      $d^2 = 45$ ,  $d = \sqrt{45} = \boxed{3\sqrt{5}}$

71.  $11y^2 + 3 = 36$      $11y^2 = 33$ ,  $y^2 = 3$ ,  $\boxed{y = \sqrt{3}}$

72. Find the hypotenuse of a right triangle with legs 60 inches and 80 inches.

$\boxed{100 \text{ in}}$



**Solve Quadratic Equations using Quadratic Formula.**

The **quadratic formula**: Let  $a$ ,  $b$ , and  $c$  be real numbers where  $a \neq 0$ . The solutions of the quadratic equation  $ax^2 + bx + c = 0$  are

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

Remember to set equation equal to zero before finding a, b, and c.

73.  $x^2 + 4x = 2$      $x^2 + 4x - 2 = 0$      $x = \frac{-4 \pm \sqrt{16 - 4(-2)}}{2} = \frac{-4 \pm \sqrt{24}}{2} = \frac{-4 \pm 2\sqrt{6}}{2}$

74.  $2x^2 - 8x = 1$      $2x^2 - 8x - 1 = 0$      $x = \frac{8 \pm \sqrt{64 - 4(2)(-1)}}{4} = \frac{8 \pm \sqrt{72}}{4} = \frac{8 \pm \sqrt{9 \cdot 8}}{4}$

75.  $x^2 - 4x + 5 = 0$      $x = \frac{4 \pm \sqrt{16 - 4(5)}}{2}$   
 $\boxed{\text{No sol}}$      $\frac{8 \pm 6\sqrt{2}}{4}$

**Use Properties of Exponents. Do not use calculator!**

76.  $(2^2 \cdot 5)^3$      $(4, 5)^3 = 20^3 = \boxed{8000}$

77.  $7^3 \cdot 7^{-1}$      $7^2 = \boxed{49}$

78.  $(8^0 \cdot 6^{-2})^{-1}$      $1 \cdot 6^2 = \boxed{36}$

79.  $x^{-1}$      $\boxed{\frac{1}{x}}$

80.  $t^7 t^2 t^8$      $\boxed{t^{17}}$

81.  $(k^3 m^4)^2$      $\boxed{k^6 m^8}$

82.  $\frac{g^5}{g^2}$      $\boxed{g^3}$

83.  $\left(\frac{3x}{z^2}\right)^0$      $\boxed{1}$

84.  $\frac{2x^3}{10x^5}$      $= \boxed{\frac{1}{5x^2}}$

$\boxed{\text{#74 } \frac{4 \pm 3\sqrt{2}}{2}}$

**Add, Subtract and Multiply Polynomials**

85.  $(4x^3 - 2x^2 + 5) + (-x^3 - x^2 + 4x - 2)$   $\boxed{3x^3 - 3x^2 + 4x + 3}$

86.  $(9x^2 - 8x + 3) - (2x^2 + x - 4)$   $\boxed{7x^2 - 9x + 7}$

87.  $(4d + 3)(4d - 5)$   $16d^2 - 20d + 12d - 15 = \boxed{16d^2 - 8d - 15}$

88.  $(4d + 3) + (4d - 5)$   $\boxed{8d - 2}$

89.  $(2a + 5)^2$   $(2a + 5)(2a + 5) = \boxed{4a^2 + 20a + 25}$

90.  $(z^2 - 5z + 3)(z - 1)$

$$\begin{array}{r} z^3 - 5z^2 + 3z \\ - z^2 + 5z - 3 \\ \hline \end{array}$$

$$\boxed{z^3 - 6z^2 + 8z - 3}$$



**Addendum**  
**Required for Accelerated Algebra II**  
**Optional for Regular Algebra II**

ch2 91. Consider the graph of  $Ax + By = C$ . If  $B \neq 0$  what is the slope and the y-intercept of the line?

92. Insert grouping symbols as needed to make  $1 + 3 \cdot 2^2 = 49$  a true statement.

ch1 { 93. Solve  $|x + 2| = |2x - 4|$  and explain your method to find the solution/solutions.

94.  $-49 > 7(2x + 3)$

ch2 95. Write a linear equation whose graph is between the graphs of  $x + y = 5$  and  $x + y = -5$ .

ch2 96. Find  $x$  so that the line through the points  $(x, 2)$  and  $(4, -6)$  has a slope of  $-\frac{8}{3}$ .

ch2 97. Find the value of  $k$  in the equation  $5x + ky = 8$  if  $(3, -1)$  is a solution of the equation.

ch2 98. Determine if  $x - 4y = 5$  and  $4y - x = 2$  are perpendicular.

ch2 99. Find the vertices of the triangle whose sides contain the lines  $5x - 3y = -7$ ,  $x + 2y = 9$ , and  $3x - 7y = 1$ .

ch1 100. Solve for  $y$ ;  $0.25y - 0.5x = 4.5$ .

ch2 101. Write an equation in standard form for the line with x-intercept  $-\frac{1}{2}$  and through the point  $(8, -1)$ .

ch2 102. Write an equation, in slope intercept form, for the line that contains the point  $(1, 4)$  and is perpendicular to the line  $3x + 4y = -8$ .

ch2 103. Determine the constant  $k$  so that the graph of  $3x + (k + 1)y = k - 1$  will have a slope of 2.

ch2 104. Write an inequality that has  $(10, 15)$ ,  $(-10, 20)$ ,  $(-20, -25)$  and  $(25, -10)$  in the solution set.

ch4 { 105. Factor:  $5x^2 - 17x + 6$ .

106. Factor:  $3x^2 + 20x - 7$ .

$$(91) Ax + By = C$$

$$By = -Ax + C$$

$$y = -\frac{A}{B}x + \frac{C}{B}$$

$$\boxed{\text{slope} = -\frac{A}{B}, \text{ y int} = \frac{C}{B}}$$

$$(92) 1 + 3 \cdot 2^2 = 49$$

$$\boxed{[1 + (3 \cdot 2)]^2 = 49}$$

$$(93) |x+2| = |2x-4|$$

$$x+2 = 2x-4$$

$$\boxed{x=6}$$

$$x+2 = -(2x-4) \quad \text{same} \quad -(x+2) = 2x-4$$



same

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

$$x+2 = -2x+4$$

$$3x = 2$$

$$\boxed{x = \frac{2}{3}}$$

chk:  $8 = 8 \checkmark$

$$|2\frac{2}{3}| = \left| \frac{4}{3} - \frac{12}{3} \right| \checkmark$$

$$\boxed{x = 6 \text{ or } \frac{2}{3}}$$

$$(94) -49 > 14x + 21$$

$$-21$$

$$\hline -70 > 14x$$

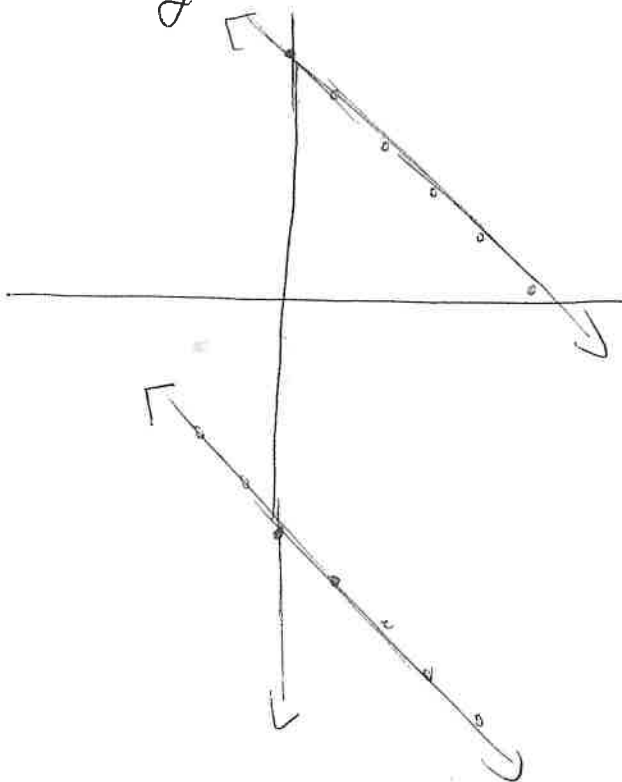
$$-5 > x$$

$$\boxed{x < -5}$$

95

$$y = -x + 5$$

$$y = -x - 5$$



$$y = -x + 1$$

↑

b can be  
anything between  
-5 and 5

96

$$\frac{-8}{3} = \frac{-6-2}{4-x}$$

$$\frac{-8}{3} = \frac{-8}{4-x}$$

$$3 = 4 - x$$

$$-1 = -x$$

$$\boxed{x = 1}$$

97

$$15 - k = 8$$

$$-k = -7$$

$$\boxed{k = 7}$$

98

$$-4y = -x + 5$$

$$4y = x + 2$$

$$y = \frac{x}{4} - \frac{5}{4}$$

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

$$\boxed{\text{Not } \perp, //}$$

99  $5x - 3y = -7$   
 $-3y = -5x - 7$   
 $y = \frac{5}{3}x + \frac{7}{3}$

$3y = -7$   
 $y = \frac{7}{3}$

$5x = -7$   
 $x = -\frac{7}{5}$

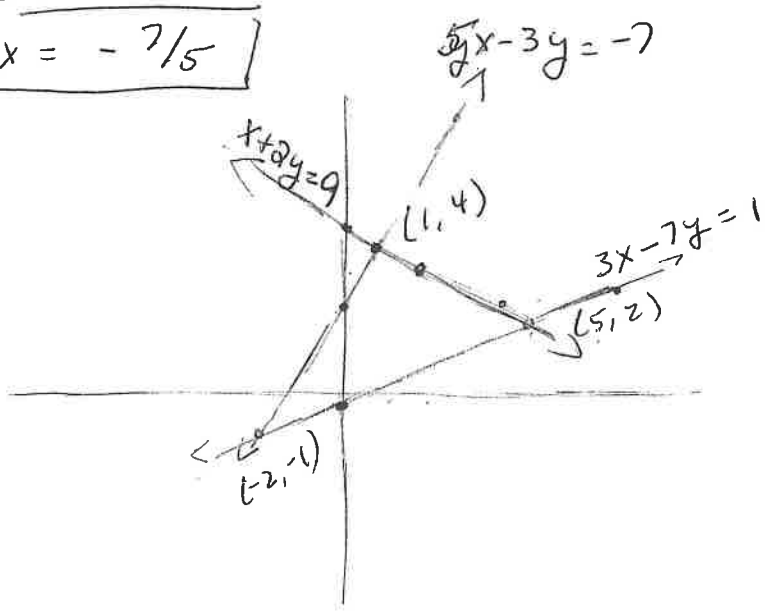
$x + 2y = 9$   
 $2y = -x + 9$   
 $y = -\frac{1}{2}x + \frac{9}{2}$

$2y = 9$   
 $y = \frac{9}{2}$

$x = 9$

$3x - 7y = 1$   
 $-7y = -3x + 1$   
 $y = \frac{3}{7}x - \frac{1}{7}$

$y = -\frac{1}{7}$   
 $x = \frac{1}{3}$



$5x - 3y = -7$   
 $-5(x + 2y = 9)$

$5x - 3y = -7$   
 $-5x - 10y = -45$   
 $-13y = -52$   
 $y = 4$

$x + 8 = 9$   
 $x = 1$   
 $(1, 4)$

$3(5x - 3y = -7)$   
 $-5(3x - 7y = 1)$

$15x - 9y = -21$   
 $-15x + 35y = -5$   
 $26y = -26$   
 $y = -1$

$3x + 7 = 1$   
 $3x = -6$   
 $x = -2$   
 $(-2, -1)$

$-3(x + 2y = 9)$   
 $3x - 7y = 1$

$-3x - 6y = -27$   
 $3x - 7y = 1$   
 $-13y = -26$   
 $y = 2$

$x + 4 = 9$   
 $x = 5$   
 $(5, 2)$

100

$$.25y - .5x = 4.5$$

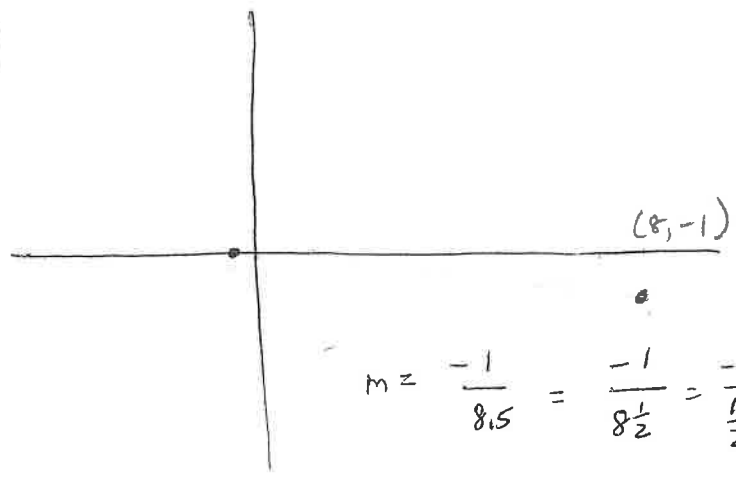
$$25y - 50x = 450$$

$$25y = 50x + 450$$

$$y = \frac{50x + 450}{25}$$

$$y = 2x + 18$$

101



$$m = \frac{-1}{8.5} = \frac{-1}{8\frac{1}{2}} = \frac{-1}{\frac{17}{2}} = \frac{-2}{17}$$

$$y - (-1) = \frac{-2}{17}(x - 8)$$

$$y + 1 = \frac{-2}{17}x + \frac{16}{17}$$

$$y = \frac{-2}{17}x - \frac{1}{17}$$

$$\frac{2}{17}x + y = \frac{-1}{17}$$

$$2x + 17y = -1$$

102

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

$$y = -\frac{3}{4}x - 2$$

$$m = \frac{4}{3}$$

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

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

$$y = \frac{4}{3}x + \frac{8}{3}$$

103

$$3x + (k+1)y = k-1$$

$$(k+1)y = -3x + k-1$$

$$y = \frac{-3}{k+1}x + \frac{k-1}{k+1}$$

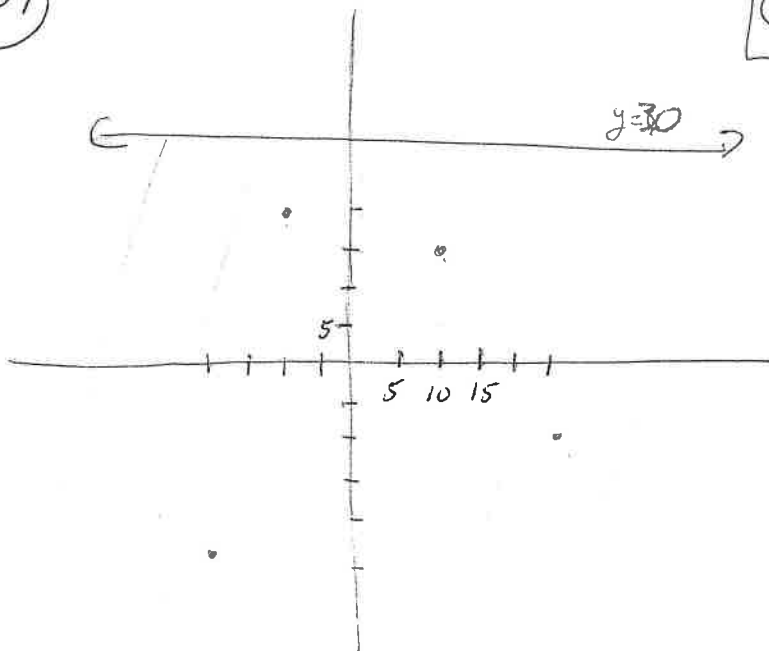
$$\frac{-3}{k+1} = 2$$

$$2k + 2 = -3$$

$$2k = -5$$

$$k = -\frac{5}{2}$$

104



open ended  
 (104)  $y < 30$

105  $5x^2 - 17x + 6$

~~$(5x - 10)(x - 3)$~~   $(5x - 2)(x - 3)$   
 ~~$(5x - 3)(x - 10)$~~   
 ~~$(5x - 5)(x - 6)$~~   
 ~~$(5x - 6)(x - 5)$~~   
 ~~$(5x - 15)(x - 2)$~~   
 ~~$(5x - 2)(x - 15)$~~

$5x$	$5x^2$	$-15x$
$-2$	$-2x$	$6$
	$x$	$-3$

$30x^2$   
^  
 $-15x, -2x$

106  $3x^2 + 20x - 7$

~~$(3x - 7)(x + 1)$~~   
 ~~$(3x + 1)(x - 7)$~~   
 $(3x - 1)(x + 7)$