

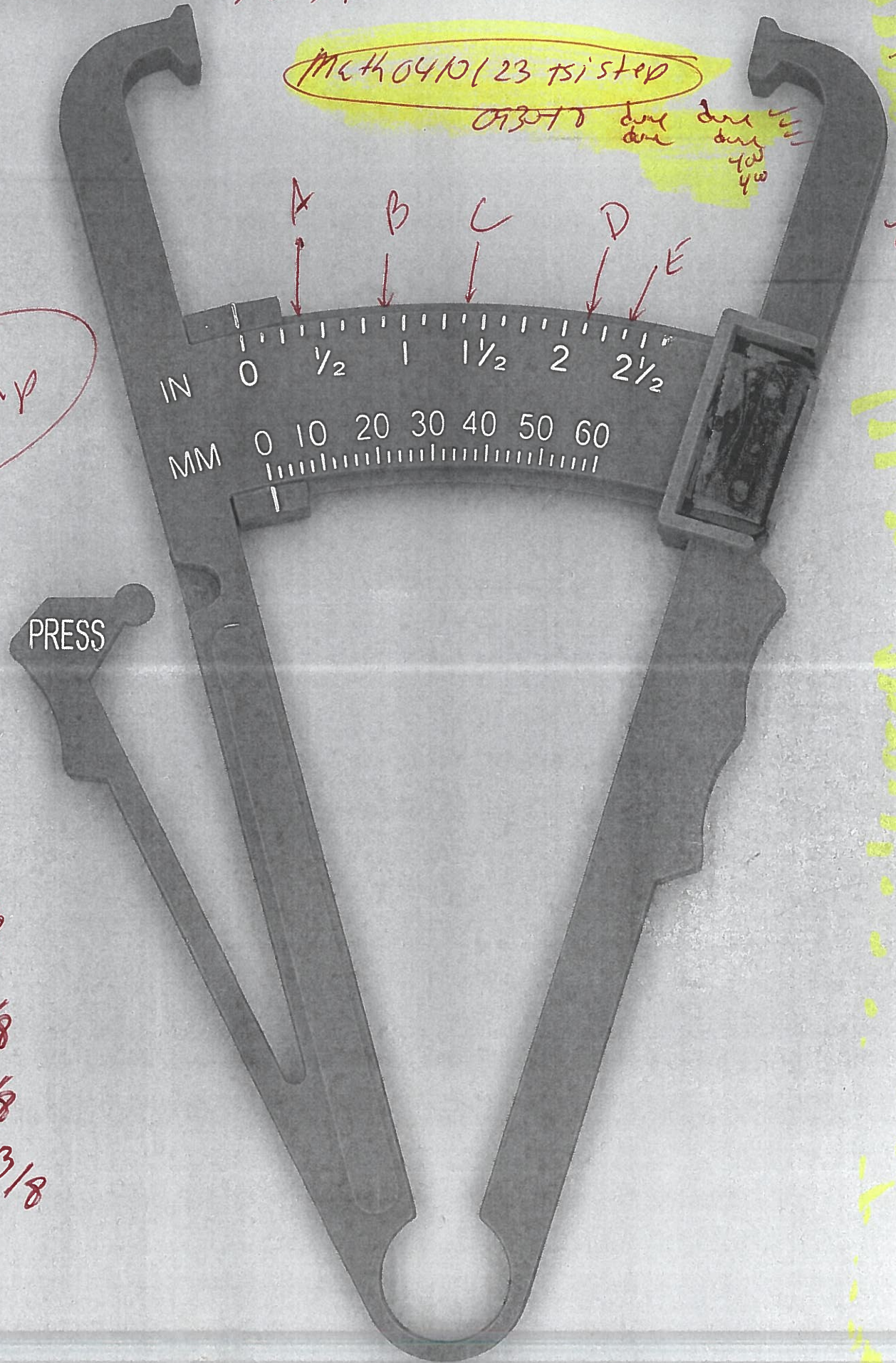
Find the values of A, B, C, D, E

Meth 0410123 TS1 step

0.3010 one one 1/2
one one one
400
400

A B C D E

worm up



- A = 3/8
- B = ~~1~~ 1/8
- C = 1 3/8
- D = 2 1/8
- E = 2 3/8

MAJ40410123 tsj step

093018

① $2x - y$, $x = 4$, $y = -8$

$$2(4) - (-8) =$$

$$8 + 8 =$$

$$16 =$$

PEMDAS

VJJJ
JJJ

② $5 + 6 \cdot 2 - 14 =$

$$5 + 12 - 14 =$$

$$17 - 14 =$$

$$3 =$$

PEMDAS

③ $7(-12) \div [3(-7) - 5(-4)] =$

$$7(-12) \div [-21 + 20] =$$

$$7(-12) \div [-1] =$$

$$-84 \div [-1] =$$

$$84 =$$

PEMDAS

④ $x^2 - y$, $x = -4$, $y = 6$

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

$$(-4)(-4) - (6) =$$

$$16 - 6 =$$

$$10 =$$

PEMDAS

$$\textcircled{5} \quad \frac{n}{6} = -4$$

$$\cancel{6} \left(\frac{n}{\cancel{6}} \right) = \frac{\cancel{6}}{1} \left(\frac{-4}{1} \right)$$

$$n = \frac{-24}{1}$$

$$n = -24$$

MULTI

PEMDAS

$\textcircled{6}$

$$3x - 13x =$$

$$-10x =$$

PEMDAS

$\textcircled{7}$

$$-6(7y + 5) =$$

$$-42y - 30 =$$

PEMDAS

$\textcircled{8}$

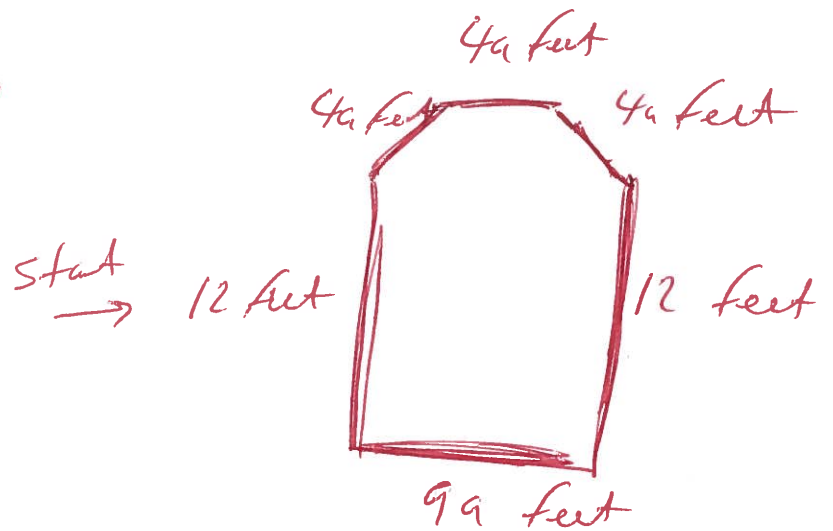
$$6y - 2(y - 2) + 6 =$$

$$6y - 2y + 4 + 6 =$$

$$4y + 10 =$$

PEMDAS

9 find perimeter



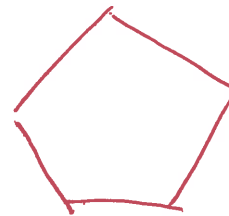
$$P = 12 + 4a + 4a + 4a + 12 + 9a$$

$$P = 21a + 24 \text{ feet}$$

10 find perimeter

$$P = 5(-4x + 10)$$

$$P = -20x + 50 \text{ inches}$$



Each side
 $-4x + 10$
inches

PENTAGON

11 find area

$$L = 52 \text{ feet}, \quad W = 40 \text{ feet}$$

$$A = Lw$$

$$A = (52)(40)$$

$$A = 2080 \text{ square feet}$$

12

Find Perimeter

$$L = 17 \text{ feet, } W = 13 \text{ feet}$$

$$P = 2L + 2W$$

$$P = 2(17) + 2(13)$$

$$P = 34 + 26$$

$$P = \textcircled{60} \text{ feet}$$

PEMDAS

13

$$4(4x - 3) = 17x$$

$$16x - 12 = 17x$$

$$16x - \cancel{12} + \cancel{12} = 17x + 12$$

$$16x = 17x + 12$$

$$16x - 17x = \cancel{17x} + 12 - \cancel{17x}$$

$$-1x = 12$$

$$\frac{-1x}{-1} = \frac{12}{-1}$$

$$\textcircled{x = -12}$$

PEMDAS

14

$$-7(x+2) - 43 = 5 - 20$$

$$-7x - 14 - 43 = -15$$

$$-7x - 57 = -15$$

$$-7x - \cancel{57} + \cancel{57} = -15 + 57$$

$$-7x = 42$$

$$\frac{-7x}{-7} = \frac{42}{-7}$$

$$x = -6$$

PEMDAS

15.

$$\frac{x}{-3} = 2^2 - |-3| - (-4)$$

$$\frac{x}{-3} = (2)(2) - (3) - (-4)$$

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

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

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

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

$$x = -15$$

PEMDAS

16

$$2x - 5 = 3x + 8$$

$$2x - 5 + 5 = 3x + 8 + 5$$

$$2x = 3x + 13$$

$$2x - 3x = 3x + 13 - 3x$$

$$-1x = 13$$

$$\frac{-1x}{-1} = \frac{13}{-1}$$

$$x = -13$$

17

$$3(y - 3) = y - 9$$

$$3y - 9 = y - 9$$

$$3y - 9 + 9 = y - 9 + 9$$

$$3y = y$$

$$3y = 1y$$

$$3y - 1y = 1y - 1y$$

$$2y = 0$$

$$\frac{2y}{2} = \frac{0}{2}$$

$$y = 0$$

PENDAS

18

$$3t - 6 = 4(t + 4)$$

$$3t - 6 = 4t + 16$$

$$3t - \cancel{6} + \cancel{6} = 4t + 16 + 6$$

$$3t = 4t + 22$$

$$3t - 4t = \cancel{4t} + 22 - \cancel{4t}$$

$$-1t = 22$$

$$\frac{-1t}{-1} = \frac{22}{-1}$$

$$t = -22$$

PEMDAS

19

$$2(4c - 1) - 4 = 5c + 9$$

$$8c - 2 - 4 = 5c + 9$$

$$8c - 6 = 5c + 9$$

$$8c - \cancel{6} + \cancel{6} = 5c + 9 + 6$$

$$8c = 5c + 15$$

$$8c - 5c = 5c + 15 - 5c$$

$$3c = 15$$

$$\frac{3c}{3} = \frac{15}{3}$$

$$c = 5$$

PEMDAS

$$20) \quad 5n + 40 = 60$$

$$5n + 40 - 40 = 60 - 40$$

$$5n = 20$$

$$\frac{5n}{5} = \frac{20}{5}$$

$$n = 4$$

21) During the women's basketball championship game team A scored 4 more points than team B. Together, both teams scored a total of 160 points. How many points did the champion team A score during the game?

$$A + B = 160$$

$$A - B = 4$$

let $A = \text{Team A Champion}$

$B = \text{Team B}$

$$2A + 0 = 164$$

$$2A = 164$$

$$\frac{2A}{2} = \frac{164}{2}$$

$$A = 82$$

Subst

$$A + B = 160$$

$$82 + B = 160$$

$$82 + B - 82 = 160 - 82$$

$$(A, B) = (82, 78)$$

Team A

$$B = 78$$

22

$$-\frac{3}{2} \cdot \frac{5}{9} =$$

$$\frac{-1(3)}{(2)} \cdot \frac{(5)}{(3)(3)} =$$

$$\frac{-1(\cancel{3})}{(2)} \cdot \frac{(5)}{(\cancel{3})(3)} =$$

$$\frac{-5}{6} =$$

Primes 2, 3, 5, 7, ...

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

23

$$\frac{2}{55} \cdot \frac{1}{3} \cdot \frac{11}{4} =$$

$$\frac{(2)}{(5)(11)} \cdot \frac{1}{(3)} \cdot \frac{(11)}{(2)(2)} =$$

$$\frac{\cancel{(2)}}{(5)(\cancel{11})} \cdot \frac{1}{(3)} \cdot \frac{(\cancel{11})}{\cancel{(2)}(2)} =$$

$$\frac{1}{30} =$$

Primes 2, 3, 5, 7, ...

$$\begin{array}{r} 5 \overline{)55} \quad 2 \overline{)4} \\ 1 \overline{)11} \quad 2 \overline{)2} \\ 1 \end{array}$$

24

$$\left(\frac{-2}{9}\right)^2 =$$

$$\left(\frac{-2}{9}\right)\left(\frac{-2}{9}\right) = \text{rewrite}$$

$$\frac{4}{81} =$$

PEMDAS

25

$$\frac{2}{3} \div \frac{5}{6} = \text{Primes } 2, 3, 5, 7, \dots$$

$$\frac{2}{3} \cdot \frac{6}{5} = \text{rewrite } \frac{2\cancel{6}}{3\cancel{3}1}$$

$$\frac{(2)}{(3)} \cdot \frac{(2)(3)}{(5)} =$$

PEMDAS

$$\frac{\cancel{(2)}}{\cancel{(3)}} \cdot \frac{(2)(\cancel{3})}{(5)} =$$

$$\frac{4}{5} =$$

26

$$\frac{12x^2}{35y} \div \frac{28x}{25y} =$$

Prime 2, 3, 5, 7...

2(12)	5(35)	2(28)	5(25)
2(6)	7(7)	2(14)	5(5)
3(3)	1	7(7)	1
1		1	

$$\frac{12x^2}{35y} \cdot \frac{25y}{28x} = \text{remainder}$$

$$\frac{(2)(2)(3)xx}{(5)(7)y} \cdot \frac{(5)(5)y}{(2)(2)(7)x} =$$

$$\frac{\cancel{(2)}(\cancel{2})(3)xx}{\cancel{(5)}(7)y} \cdot \frac{(5)(5)y}{\cancel{(2)}(\cancel{2})(7)x} =$$

$$\frac{15x}{49} =$$

27

$$\frac{9}{10} (40) =$$

Prima 2, 3, 5, 7

$$\begin{array}{r} 3 \overline{) 9} \quad 2 \overline{) 10} \quad 2 \overline{) 40} \\ 3 \overline{) 3} \quad 5 \overline{) 5} \quad 2 \overline{) 20} \\ 1 \quad 1 \quad 2 \overline{) 10} \\ \quad \quad \quad 5 \overline{) 5} \\ \quad \quad \quad 1 \end{array}$$

$$\frac{(3)(3)}{(2)(5)} \cdot \frac{(2)(2)(2)(5)}{1} =$$

$$\frac{(3)(3)}{(2)(\cancel{5})} \cdot \frac{(2)(2)(2)(\cancel{5})}{1} =$$

PEMDAS

$$36 =$$

28

$$\frac{3}{20} + \frac{1}{20} =$$

Prima 2, 3, 5, 7

$$\begin{array}{r} 2 \overline{) 4} \quad 2 \overline{) 20} \\ 2 \overline{) 2} \quad 2 \overline{) 10} \\ 1 \quad 5 \overline{) 5} \\ \quad 1 \end{array}$$

$$\frac{3+1}{20} =$$

$$\frac{4}{20} =$$

$$\frac{(2)(2)}{(2)(2)(5)} =$$

$$\frac{1(\cancel{2})(\cancel{2})}{(\cancel{2})(\cancel{2})(5)} =$$

PEMDAS

$$\frac{1}{5} =$$

29

$$\frac{1}{5} + \frac{7}{10} =$$

LCD = 10

$$\frac{1}{5} \left(\frac{2}{2} \right) + \frac{7}{10} =$$

$$\frac{2}{10} + \frac{7}{10} =$$

$$\frac{2+7}{10} =$$

$\frac{9}{10} =$

PEMDAS

Prime 2, 3, 5, 7...

$$5 \overline{) 10}$$

$$1 \quad 5$$

$$5 = 5$$

$$10 = 2 \cdot 5$$

LCD = 2.5

= 10

30

$$\frac{2}{9} - \frac{5}{12} =$$

LCD = 36

$$\frac{2}{9} \left(\frac{4}{4} \right) - \frac{5}{12} \left(\frac{3}{3} \right) =$$

$$\frac{8}{36} - \frac{15}{36} =$$

$$\frac{8-15}{36} =$$

$\frac{-7}{36} =$

PEMDAS

Prime 2, 3, 5, 7...

$$3 \overline{) 9} \quad 2 \overline{) 12}$$

$$3 \overline{) 3} \quad 2 \overline{) 6}$$

$$1 \quad 3 \overline{) 3}$$

$$9 = 3 \cdot 3$$

$$12 = 2 \cdot 2 \cdot 3$$

LCD = 2.2.3.3

= 36

31

$$\frac{\frac{4}{5}}{\frac{4}{7}} =$$

$$\frac{4}{5} \cdot \frac{7}{4} = \text{rewrite}$$

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

32

$$-15 = \frac{3}{17}x$$

$$\frac{17}{3}(-15) = \frac{17}{3}(\frac{3x}{17})$$

$$\frac{17}{3}(-1(\cancel{3})(15)) = x$$

$$\frac{-85}{1} = x$$

$$-85 = x$$

Prima 2, 3, 5, 7, 11, 13, 17

$$\begin{array}{r} 3 \overline{) 15} \\ 5 \overline{) 5} \\ 1 \end{array}$$

33

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

LCD = 15

Prime 2, 3, 5, 7.
3(3) 5(5)
1 3=3 5=5
LCD = 3 · 5
= 15

$$\frac{y}{3} = \frac{y}{5} + \frac{5}{1}$$

$$\frac{y}{3}(15) = \frac{y}{5}(15) + \frac{5}{1}(15) \text{ mult}$$

$$y(5) = y(3) + 5(15) \text{ divide}$$

$$5y = 3y + 75$$

$$5y - 3y = \cancel{3y} + 75 - \cancel{3y}$$

$$2y = 75$$

$$\frac{2y}{2} = \frac{75}{2}$$

$$y = \frac{75}{2}$$

34) $\frac{1}{4} - \frac{y}{7} = \frac{3}{28}$ LCD = 28

$\frac{1}{4}(28) - \frac{y}{7}(28) = \frac{3}{28}(28)$ Mult

$1(\cancel{7}) - y(4) = 3(1)$ Divul

$7 - 4y = 3$

$\cancel{7} - 4y - \cancel{7} = 3 - 7$

$-4y = -4$

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

$y = 1$

Primes 2, 3, 5, 7

2	4	7	2	28
2	2	1	4	7
1			7	1

4 = 2 · 2
7 = 7
28 = 2 · 2 · 7
LCD = 2 · 2 · 7 = 28

35) $\frac{a}{6} + \frac{5}{1} = \frac{a}{5} + \frac{6}{1}$ LCD = 30

$\frac{a}{6}(30) + \frac{5}{1}(30) = \frac{a}{5}(30) + \frac{6}{1}(30)$

$a(5) + 5(30) = a(6) + 6(30)$

$5a + 150 = 6a + 180$

$5a + 150 - 150 = 6a + 180 - 150$

$5a = 6a + 30$

$5a - 6a = 6a + 30 - 6a$

$-1a = 30$

$\frac{-1a}{-1} = \frac{30}{-1}$
 $a = -30$

Primes 2, 3, 5, 7

2	6	5	5
3	3	1	
1		2	3

LCD = 2 · 3 · 5 = 30

$$(36) -6.902 \times 1000 =$$

$$-6902. = \text{Move decimal 3 times to right}$$

$$(37) \frac{89.962}{100} =$$

$$0.89962 = \text{Move decimal 2 times to left}$$

$$(38) 4.5x - 27 = 2.8x + 7$$

$$4.5x - \cancel{27} + \cancel{27} = 2.8x + 7 + 27$$

$$4.5x = 2.8x + 34$$

$$4.5x - 2.8x = \cancel{2.8x} + 34 - \cancel{2.8x}$$

$$1.7x = 34$$

$$\frac{\cancel{1.7}x}{\cancel{1.7}} = \frac{34}{1.7}$$

$$x = 20$$

$$\textcircled{39} \quad \frac{13}{130} = \frac{24}{x}$$

$13(x) = 130(24)$ (cross mult)

$$13x = 3120$$

$$\frac{13x}{13} = \frac{3120}{13}$$

$$\textcircled{x = 240}$$

$\textcircled{40}$ Write the fraction as a percent

$$\frac{7}{20}$$

$$\frac{7}{20} = \frac{x}{100}$$

$7(100) = 20(x)$ (cross mult)

$$700 = 20x$$

$$\frac{700}{20} = \frac{20x}{20}$$

$$\textcircled{35 = x} \quad \text{OR} \quad \textcircled{35\% = x}$$

41. 34% written as a decimal

$$.34 =$$

34% written as a fraction simplified

$$\frac{34}{100} =$$

$$\frac{(2)(17)}{(2)(2)(5)(5)} =$$

$$\frac{(2)(17)}{(2)(2)(5)(5)} =$$

$$\frac{17}{50} =$$

Prima 2, 3, 5, 7, 11, 17

$$2 \overline{) 34}$$

$$17 \overline{) 17}$$

1

$$2 \overline{) 100}$$

$$2 \overline{) 50}$$

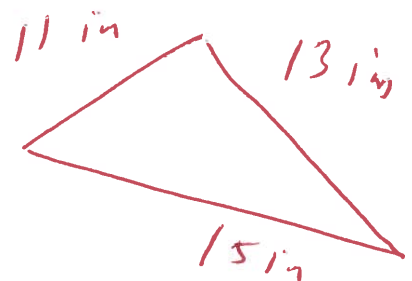
$$5 \overline{) 25}$$

$$5 \overline{) 5}$$

42. find Perimeter

$$P = 11 + 13 + 15$$

$$P = 39 \text{ inches}$$



43) find area

$$A = LW$$

$$A = (4.5)(4)$$

$$A = 18 \text{ square meters.}$$



44) find area

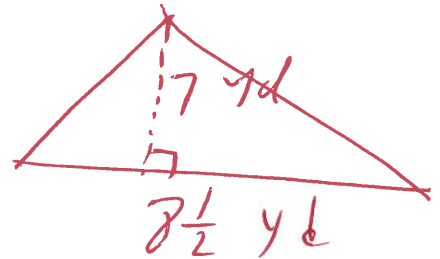
$$A = \frac{1}{2} BH$$

$$A = \frac{1}{2} (8\frac{1}{2})(7)$$

$$A = \frac{1}{2} (\frac{17}{2})(7)$$

$$A = \frac{119}{4}$$

$$A = 29\frac{3}{4} \text{ square yards}$$



$$\begin{array}{r} 29\frac{3}{4} \\ 4 \overline{) 119} \\ \underline{-(8)} \\ 39 \\ \underline{-(36)} \\ 3 \end{array}$$

45 find area

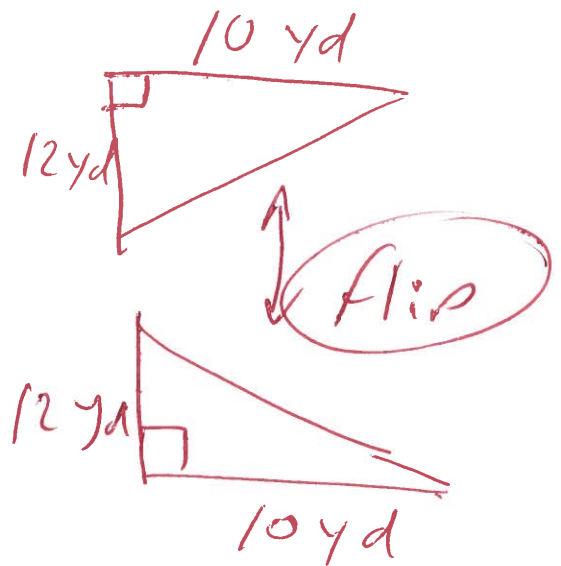
$$A = \frac{1}{2} BH$$

$$A = \frac{1}{2} (10)(12)$$

$$A = \frac{1}{2} (120)$$

$$A = \frac{120}{2}$$

$$A = 60 \text{ Square yards}$$



46

$$A = \pi r^2$$

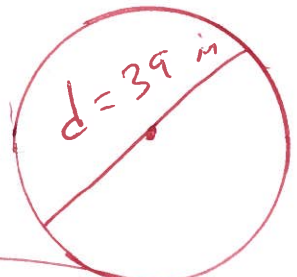
$$r = 19.5$$

$$A = \pi (19.5)^2$$

$$A = \pi (19.5)(19.5)$$

$$A = \pi (380.25)$$

$$A = 380.25 \pi \text{ Exact Square inch}$$



$$r = \frac{1}{2} d = \frac{1}{2} (39) = \frac{39}{2} = 19.5$$

$$A = \pi r^2, \pi = 3.14, r = 19.5$$

$$A = 3.14 (19.5)^2$$

$$A = 3.14 (19.5)(19.5)$$

$$A = 3.14 (380.25)$$

approx

$$A = 1193.985 \text{ Square inches}$$

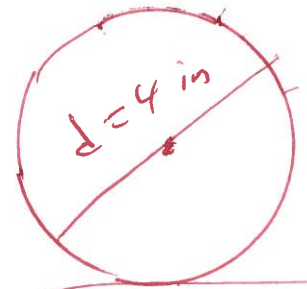
47 $A = \pi r^2$ $r = 2$

$$A = \pi (2)^2$$

$$A = \pi (2)(2)$$

$$A = \pi (4)$$

$A = 4\pi$ Exact
Square inches



$r = \frac{1}{2}d = \frac{1}{2}(4) = \frac{4}{2} = 2$

$$A = \pi r^2 \quad \pi = 3.14, \quad r = 2$$

$$A = 3.14 (2)^2$$

$$A = 3.14 (2)(2)$$

$$A = 3.14 (4)$$

$A = 12.56$ Approx
Square inches

48

$$A = Lw$$

$$L = 13\frac{1}{2} \text{ ft}, \quad w = 12 \text{ ft}$$

$$A = (13\frac{1}{2})(12)$$

$$A = (13.5)(12)$$

$A = 162$ Square feet

49

$$9(x+4) - 5 = 31$$

$$9x + 36 - 5 = 31$$

$$9x + 31 = 31$$

$$9x + \cancel{31} - \cancel{31} = 31 - 31$$

$$9x = 0$$

$$\frac{9x}{9} = \frac{0}{9}$$

$$x = 0$$

REMDAS

50

$$4x + y = 10$$

y =

$$\cancel{4}x + y - \cancel{4}x = 10 - 4x$$

$$y = 10 - 4x$$

OR

$$y = -4x + 10$$

$$(51) \quad Q = R + Rst \quad (st =)$$

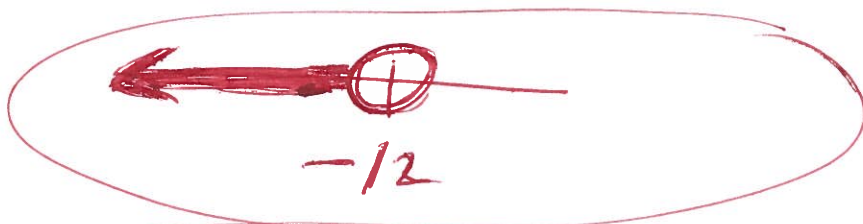
$$Q - R = R + Rst - R$$

$$Q - R = Rst$$

$$\frac{Q - R}{Rt} = \frac{Rst}{Rt}$$

$$\frac{Q - R}{Rt} = s$$

$$(52) \quad y < -12 \quad \text{graph}$$



$$(-\infty, -12)$$

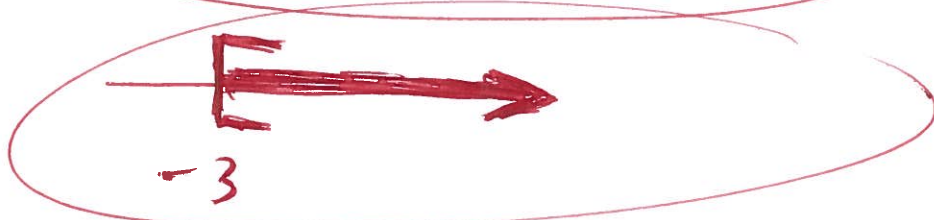
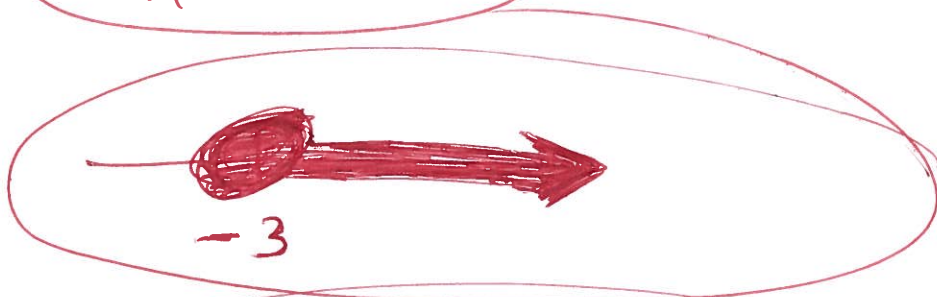
53

$$-8x \leq 24$$

$$\frac{-8x}{-8} \geq \frac{24}{-8}$$

divides by a negative and
turns the inequality around

$$x \geq -3$$



$$[-3, \infty)$$

54) $y = -2x + 3$

$y = -2(0) + 3$

$y = 0 + 3$

$y = 3$

$y = -2(1) + 3$

$y = -2 + 3$

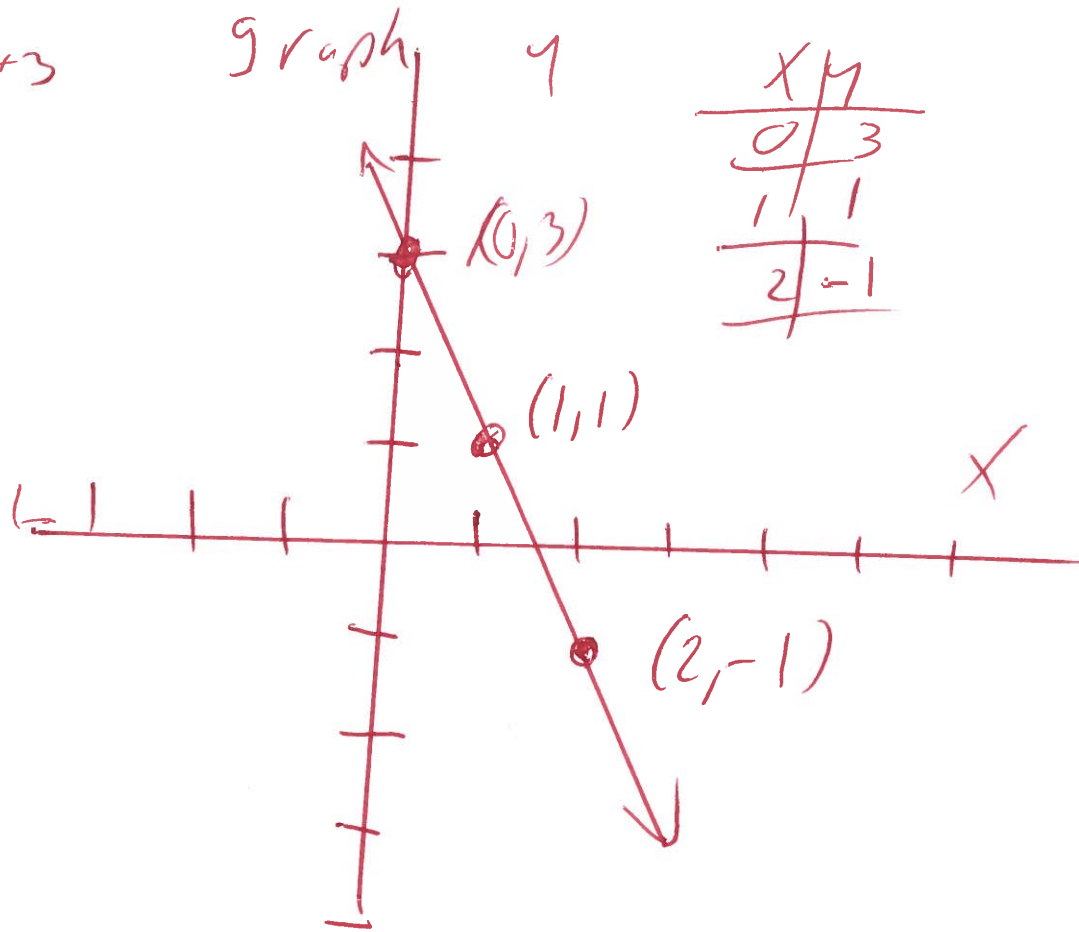
$y = 1$

$y = -2(2) + 3$

$y = -4 + 3$

$y = -1$

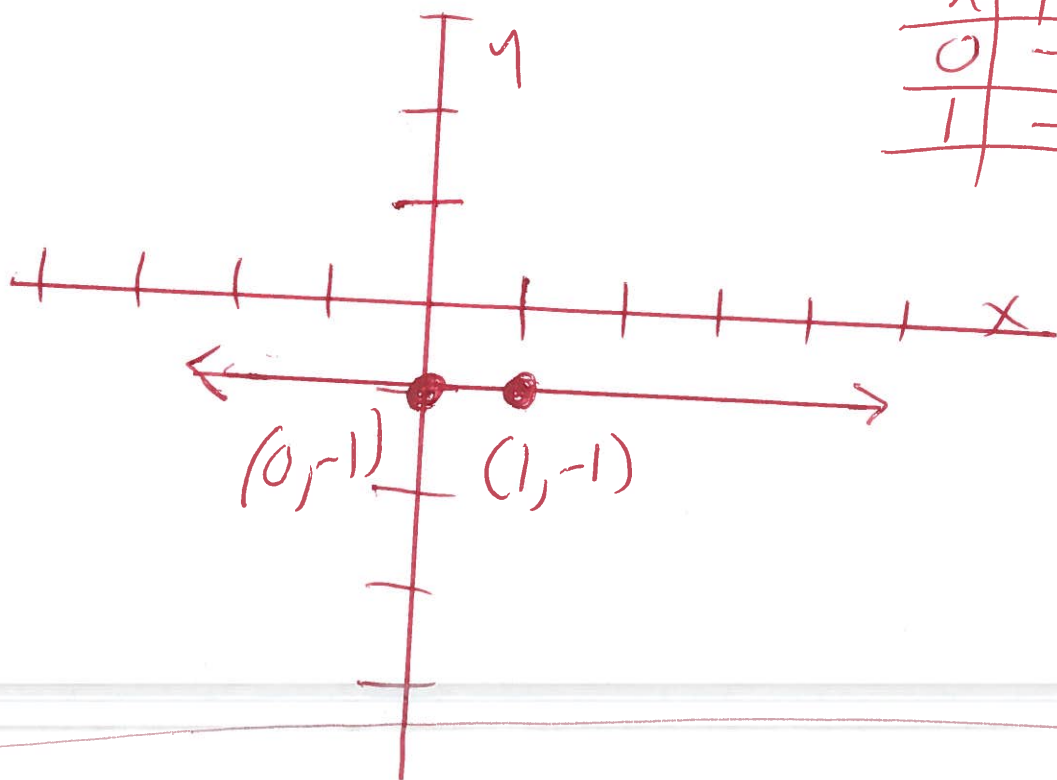
graph y



x	y
0	3
1	1
2	-1

55) $y = -1$

graph



x	y
0	-1
1	-1

56 $y = -\frac{3}{2}x - 2$

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

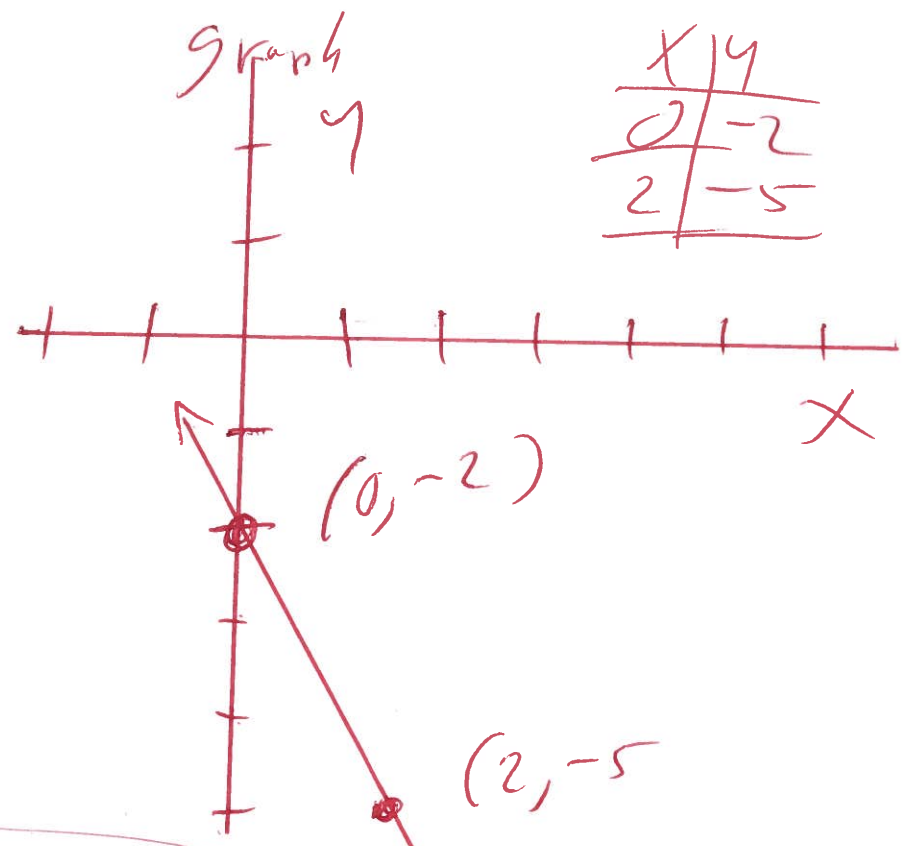
$y = 0 - 2$

$y = -2$

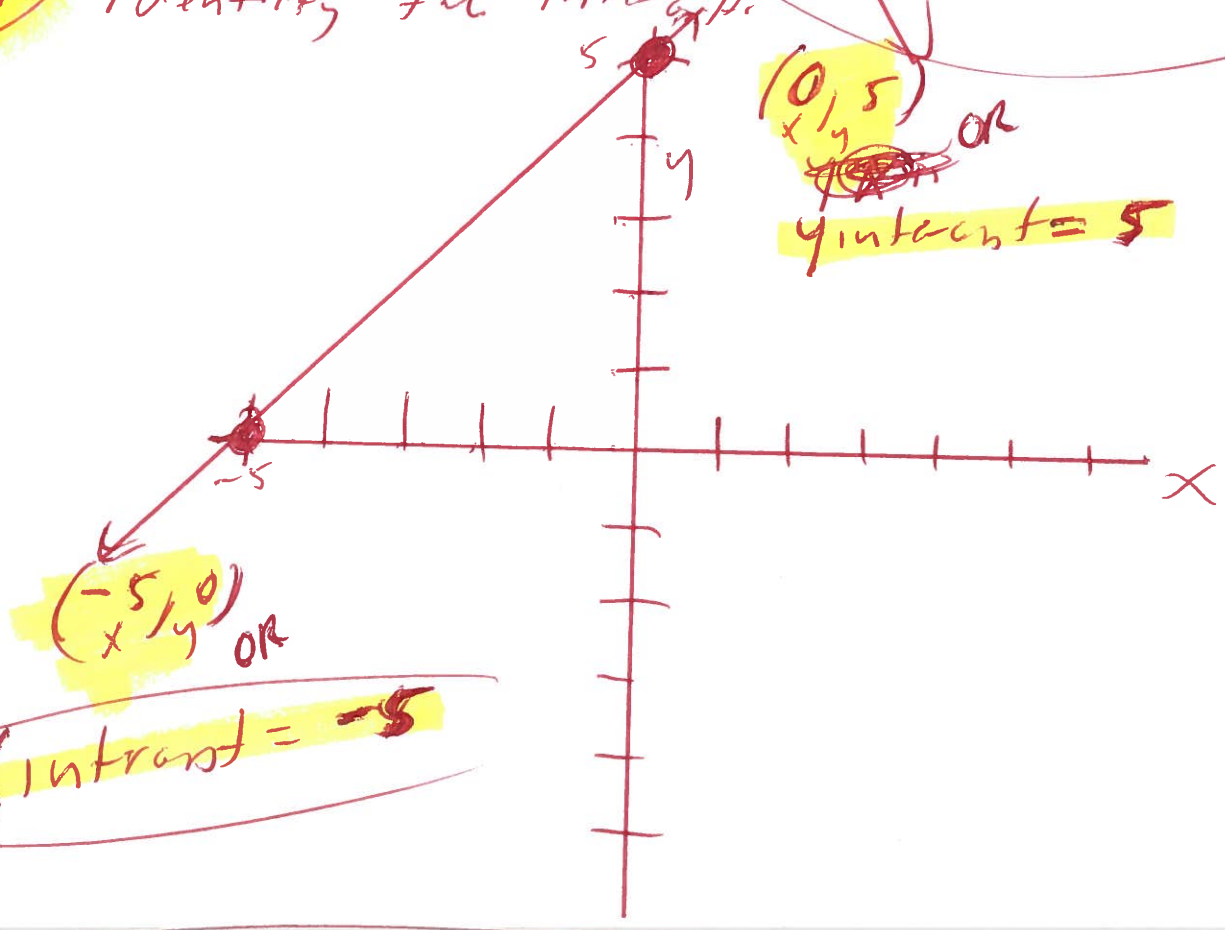
$y = -\frac{3}{2}(2) - 2$

$y = -3 - 2$

$y = -5$



57. Identify the intercepts



$(0, 5)$
~~x/y~~ OR
 $y\text{-intercept} = 5$

$(-5, 0)$
~~x/y~~ OR

$x\text{-intercept} = -5$

58 $6x - 3y = -6$ graph

find x-intercept let $y=0$

$$6x - 3(0) = -6$$

$$6x - 0 = -6$$

$$6x = -6$$

$$\frac{6x}{6} = \frac{-6}{6} \quad \text{x-intercept}$$

$x = -1$ $(-1, 0)$

find y-intercept let $x=0$

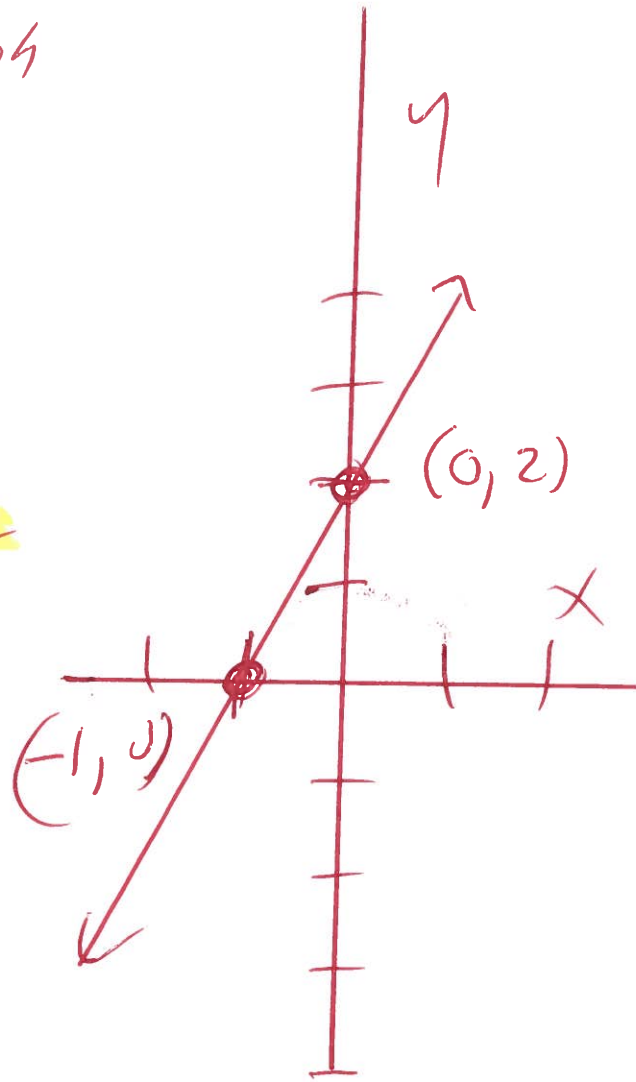
$$6(0) - 3y = -6$$

$$0 - 3y = -6$$

$$-3y = -6$$

$$\frac{-3y}{-3} = \frac{-6}{-3} \quad \text{y-intercept}$$

$y = 2$ $(0, 2)$



(59) $(-2, 4)$ and $(-7, 5)$ find slope
 $x_1 \ y_1 \quad x_2 \ y_2$

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

$$m = \frac{(4) - (5)}{(-2) - (-7)}$$

$$m = \frac{4 - 5}{-2 + 7}$$

$$m = \frac{-1}{5}$$

(60) $(7, 4)$ and $(-7, 4)$ find slope
 $x_1 \ y_1 \quad x_2 \ y_2$

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

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

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

$$m = \frac{0}{14}$$

$$m = 0$$

61. $y = -4x + 5$ find slope

Slope = $m = -4$

y-intercept = 5
or

$(0, 5)$

formula
 $y = mx + b$
Slope = m → y-intercept = b
or
 $(0, b)$

62. $2x + y = 5$ find slope

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

$y = 5 - 2x$

$y = -2x + 5$

Slope = $m = -2$

y-intercept = 5

or

$(0, 5)$

formula
 $y = mx + b$
Slope = m → y-intercept = b
or
 $(0, b)$

63) $6x - 7y = 42$ find slope

$$6x - 7y - 6x = 42 - 6x$$

$$-7y = 42 - 6x$$

$$\frac{-7y}{-7} = \frac{42}{-7} - \frac{6x}{-7}$$

$$y = -6 + \frac{6}{7}x$$

$$y = \frac{6}{7}x - 6$$

$$\text{Slope} = m = \frac{6}{7}$$

$$y\text{-intercept} = -6$$

$$\text{OR}$$
$$(0, -6)$$

formula

$$y = mx + b$$

$$\text{Slope} = m$$

$$y\text{-intercept} = b$$

OR

$$(0, b)$$

64)

$$m = 6 = \text{Slope} \quad \text{Point} = (-7, 8)$$

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

$$y - (8) = 6(x - (-7))$$

$$y - 8 = 6(x + 7)$$

$$y - 8 = 6x + 42$$

$$y - 8 + 8 = 6x + 42 + 8$$

$$y = 6x + 50$$

Find Equation of
the line

65

$$x^2 - 7x + 2 = , \quad x = -2$$

$$(-2)^2 - 7(-2) + 2 =$$

$$(-2)(-2) - 7(-2) + 2 =$$

$$4 + 14 + 2 =$$

$$18 + 2 =$$

$$20 =$$

66

$$x + y = 10$$

$$\curvearrowright x = 4y$$

$$\begin{array}{r} \text{Subst.} \\ (4y) + y = 10 \end{array}$$

$$4y + 1y = 10$$

$$5y = 10$$

$$\frac{5y}{5} = \frac{10}{5}$$

$$y = 2$$

Subst.

$$x + y = 10$$

$$x + 2 = 10$$

$$x + 2 - 2 = 10 - 2$$

$$x = 8$$

$$(x, y) = (8, 2)$$

MEMOAS

67

$$y = 5x + 1$$

$$2y - 6x = 10$$

Subst

$$2(5x + 1) - 6x = 10$$

$$10x + 2 - 6x = 10$$

$$4x + 2 = 10$$

$$4x + \cancel{2} - \cancel{2} = 10 - 2$$

$$4x = 8$$

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

$$x = 2$$

Subst

$$y = 5x + 1$$

$$y = 5(2) + 1$$

$$y = 10 + 1$$

$$y = 11$$

$$(x, y) = (2, 11)$$

PEMDAS

$$\textcircled{68} \quad \begin{aligned} 6x + y &= 33 \\ 2x - y &= 7 \end{aligned}$$

$$8x + 0 = 40$$

$$8x = 40$$

$$\frac{\cancel{8}x}{\cancel{8}} = \frac{40}{8}$$

$$\textcircled{x = 5}$$

Subst

$$6x + y = 33$$

$$6(5) + y = 33$$

$$30 + y = 33$$

$$\cancel{30} + y - \cancel{30} = 33 - 30$$

$$\textcircled{y = 3}$$

$$\textcircled{(x, y) = (5, 3)}$$

DEMDAS

69

$$x + 4y = 3$$

$$5x + 5y = 0$$

$$\begin{array}{l} (x + 4y = 3) \quad (-5) \\ (5x + 5y = 0) \quad (4) \end{array} \text{ multi}$$

$$-5x - 20y = -15$$

$$20x + 20y = 0$$

$$15x + 0 = -15$$

$$15x = -15$$

$$\frac{15x}{15} = \frac{-15}{15}$$

$$x = -1$$

Subst k

$$x + 4y = 3$$

$$(-1) + 4y = 3$$

$$-1 + 4y + 1 = 3 + 1$$

$$4y = 4$$

$$\frac{4y}{4} = \frac{4}{4}$$

$$y = 1$$

$$(x, y) = (-1, 1)$$

PembDas

60

$$x + y = 26$$

$$x - y = 6$$

$$2x + 0 = 32$$

$$2x = 32$$

$$\frac{2x}{2} = \frac{32}{2}$$

$$x = 16$$

Subst

$$x + y = 26$$

$$16 + y = 26$$

$$16 + y - 16 = 26 - 16$$

$$y = 10$$

$$(x, y) = (16, 10)$$

PemDA >

71

$$(-9a^2b^2)(8ab^4) =$$

PEMDAS

$$(-9a^2b^2)(8a^1b^4) = \text{rewrite}$$

$$-72a^{2+1}b^{2+4} =$$

$$-72a^3b^6 =$$

72

$$(4z^{10})(-2z^6)(z^2) =$$

PEMDAS

$$(4z^{10})(-2z^6)(1z^2) =$$

$$-8z^{10+6+2} =$$

$$-8z^{18} =$$

73

$$(z^2)^4 =$$

PEMDAS

$$z^{(2)(4)} = \text{mult power}$$

$$z^8 =$$

$$74) (2z^7)^4 =$$

$$((2)^1 z^7)^4 = \text{rewrite}$$

$$(2)^{1(4)} z^{7(4)} = \text{Mult Powers}$$

$$(2)^4 z^{28} =$$

$$(2)(2)(2)(2) z^{28} =$$

$$16 z^{28} =$$

PEMDAS

$$75) (-5a^3b^4c)^2 =$$

$$((-5)^1 a^3 b^4 c^1)^2 = \text{rewrite}$$

$$(-5)^{1(2)} a^{3(2)} b^{4(2)} c^{1(2)} =$$

$$(-5)^2 a^6 b^8 c^2 =$$

$$(-5)(-5) a^6 b^8 c^2 =$$

$$25 a^6 b^8 c^2 =$$

PEMDAS

(76)

$$\left(\frac{-5x^2z^3}{y} \right)^3 =$$

PemDA >

$$\left(\frac{(-5)^1 x^2 z^3}{y^1} \right)^3 = \text{rewrite}$$

$$\frac{(-5)^{1(3)} x^{2(3)} z^{3(3)}}{y^{1(3)}} = \text{MULT Powers}$$

$$\frac{(-5)^3 x^6 z^9}{y^3} =$$

$$\frac{(-5)(-5)(-5) x^6 z^9}{y^3} =$$

$$\frac{-125 x^6 z^9}{y^3} =$$

77

$$a^2 a^3 a^7 =$$
$$a^{2+3+7} =$$

$$a^{12} =$$

PEMDAS

78

$$\frac{7x^5 y^2 z}{x^3 y z} =$$

$$\frac{7x^5 y^2 z^1}{x^3 y^1 z^1} =$$

$$7x^{5-3} y^{2-1} =$$

$$7x^2 y^1 =$$

$$7x^2 y =$$

PEMDAS

$$(79) P(x) = x^2 + x + 5 \quad P(6)$$

$$P(6) = (6)^2 + (6) + 5$$

PEMDAS

$$P(6) = (6)(6) + (6) + 5$$

$$P(6) = 36 + 6 + 5$$

$$P(6) = 42 + 5$$

$$P(6) = 47$$

$$(80) -5a^2 - 4ab + 9b^2 - 3a^2 - 9ab + 9b^2 =$$

$$-8a^2 - 13ab + 18b^2 =$$

PEMDAS

$$(81) (6y^2 + 2y - 6) - (-8y + 7) =$$

$$6y^2 + 2y - 6 + 8y - 7 =$$

$$6y^2 + 10y - 13 =$$

PEMDAS

82

$$(-5y^2 - 6y) + (4y^2 + 2y - 8) =$$

$$-5y^2 - 6y + 4y^2 + 2y - 8 =$$

$$-1y^2 - 4y - 8 =$$

$$-y^2 - 4y - 8 =$$

PEMDAS

83

$$(x+3)(x^3-6x+4)$$

PEMDAS

$$x^4 - 6x^2 + 4x + 3x^3 - 18x + 12 =$$
$$x^4 + 3x^3 - 6x^2 - 14x + 12 =$$

84

$$-5x(x^2+6x-7) =$$

PEMDAS

$$-5x^3 - 30x^2 + 35x =$$

85

find area

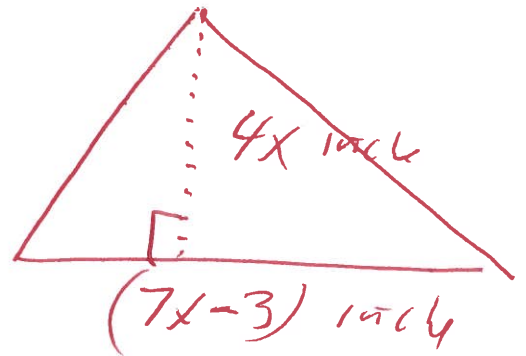
$$A = \frac{1}{2}BH$$

$$A = \frac{1}{2}(7x-3)(4x)$$

$$A = \frac{1}{2}(28x^2 - 12x)$$

$$A = \frac{1}{2}(28x^2) - \frac{1}{2}(12x)$$

$$A = 14x^2 - 6x \text{ square inches}$$



PEMDAS

86

$$\begin{aligned}2(y-6)(5y-1) &= \\2(5y^2 - 1y - 30y + 6) &= \\2(5y^2 - 31y + 6) &= \end{aligned}$$

PEMDAS

$$10y^2 - 62y + 12 =$$

87

$$\begin{aligned}(x+12)^2 &= \\(x+12)(x+12) &= \text{PEMDAS} \\x^2 + 12x + 12x + 144 &= \end{aligned}$$

PEMDAS

$$x^2 + 24x + 144 =$$

88

$$\begin{aligned}(a-9)(a+9) &= \\a^2 + 9a - 9a - 81 &= \end{aligned}$$

PEMDAS

$$a^2 - 81 =$$

89

$$4x^2(8x^4 - 5x^3 + 9) =$$

PENDAS

$$32x^6 - 20x^5 + 36x^2 =$$

90

$$(4d - 3c)^2 =$$

PENDAS

$$(4d - 3c)(4d - 3c) =$$

$$16d^2 - 12cd - 12cd + 9c^2 =$$

$$16d^2 - 24cd + 9c^2 =$$

91

$$3^{-3} =$$

PENDAS

$$\frac{1}{3^3} = \text{write}$$

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

$$\frac{1}{27} =$$

92

$$\left(\frac{1}{2}\right)^{-4} =$$

PEMDAS

$$\left(\frac{1}{2^{-1}}\right)^{-4} =$$

$$(2^{-1})^{-4} =$$

$$2^{(-1)(-4)} = \text{Ment Power}$$

$$2^4 =$$

$$(2)(2)(2)(2) =$$

$$16 =$$

93

$$\frac{y^{-4}}{y^1} =$$

PEMDAS

$$\frac{1}{y^1 y^4} = \text{rewrit}$$

$$\frac{1}{y^{1+4}} =$$

$$\frac{1}{y^5}$$

94

$$\frac{a^{-4}}{a^{-7}} =$$

PEMDAS

$$\frac{a^7}{a^4} = \text{rewrite}$$

$$a^{7-4} =$$

$$a^3 =$$

95

$$(-2x^4y^{-5})(3x^{-1}y^2) =$$

PEMDAS

$$-6x^{4-1}y^{-5+2} =$$

$$-6x^3y^{-3} =$$

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

PEMDAS

$$(96) \quad (a^{-5} b^4)^{-8} =$$

$$a^{-5(-8)} b^{4(-8)} =$$

$$a^{40} b^{-32} =$$

$$\frac{a^{40}}{b^{32}} =$$

97. Write the number in scientific notation

$$53000 =$$

$$5.3 \times 10^4 =$$

98. Write the number in scientific notation

$$0.00000165 =$$

$$1.65 \times 10^{-6} =$$

99 27, 36 find GCF Prime 2, 3, 5, 7...

$$GCF = 3 \cdot 3$$

$$= 9$$

$$\begin{array}{l} 3 \overline{) 27} \\ 3 \overline{) 36} \end{array}$$

$$\begin{array}{l} 3 \overline{) 9} \\ 2 \overline{) 18} \end{array}$$

$$\begin{array}{l} 3 \overline{) 3} \\ 3 \overline{) 9} \end{array}$$

$$\begin{array}{l} 1 \\ 3 \overline{) 3} \end{array}$$

$$27 = 3 \cdot 3 \cdot 3$$

$$36 = 2 \cdot 2 \cdot 3 \cdot 3$$

100

$$-40x^4y^4 - 32x^7y^3 = \text{factor}$$

$$8x^4y^3(-5y - 4x^3) =$$

101

$$x^2 - 2x - 15 = \text{factor}$$

Possible

$$15 \cdot 1$$

$$3 \cdot 5$$

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

$$\begin{array}{l} \text{ck} \\ (x+3)(x-5) = \end{array}$$

$$x^2 - 5x + 3x - 15 =$$

$$x^2 - 2x - 15 \checkmark =$$

Good

102

$$81x^2 - 121y^2 =$$
$$(9x)^2 - (11y)^2 =$$

$$(9x + 11y)(9x - 11y) =$$

formula

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

103

Stun

$$(6x+7)(5x-6) = 0$$

but $6x+7=0$ OR $5x-6=0$

$$6x+7-7=0-7 \quad \text{OR} \quad 5x-\cancel{6}+\cancel{6}=0+6$$

$$6x = -7 \quad \text{OR} \quad 5x = 6$$

$$\frac{6x}{6} = \frac{-7}{6} \quad \text{OR} \quad \frac{5x}{5} = \frac{6}{5}$$

$$x = -\frac{7}{6}$$

OR

$$x = \frac{6}{5}$$

104

$$x^2 - 12x + 35 = 0$$

Solve

Possible
35, 1
7, 5

$$(x - 5)(x - 7) = 0$$

$$\text{either } x - 5 = 0 \quad \text{OR} \quad x - 7 = 0$$

$$x - 5 + 5 = 0 + 5 \quad \text{OR} \quad x - 7 + 7 = 0 + 7$$

$$x = 5$$

$$\text{OR } x = 7$$

105

$$x^2 + 4x - 45 = 0$$

Solve

Possible
45, 1
15, 3
9, 5

$$(x - 5)(x + 9) = 0$$

$$\text{either } x - 5 = 0 \quad \text{OR} \quad x + 9 = 0$$

$$x - 5 + 5 = 0 + 5 \quad \text{OR} \quad x + 9 - 9 = 0 - 9$$

$$x = 5$$

$$\text{OR } x = -9$$

106

$$\frac{x+8}{x^2-2x-80} =$$

$$\frac{x+8}{(x+8)(x-10)} =$$

$$\frac{1(x+8)}{(x+8)(x-10)} =$$

$$\frac{1}{x-10} =$$

Possible

- 80, 1
- 40, 2
- 20, 4
- 10, 8

107

$$\frac{x^2-9}{x^2-2x-3} \cdot \frac{x+1}{x} =$$

$$\frac{(x)^2-(3)^2}{(x+1)(x-3)} \cdot \frac{x+1}{x} =$$

$$\frac{(x+3)(x-3)}{(x+1)(x-3)} \cdot \frac{(x+1)}{(x)} =$$

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

Formula

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

Possible

- 1, 3

108

$$\frac{9m}{8n} + \frac{7m}{8n}$$

$$\frac{9m + 7m}{8n} =$$

$$\frac{16m}{8n} =$$

$$\frac{(2)(8)m}{(8)n} =$$

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

109

$$\frac{6x+6}{x^2+10x+24}$$

$$\frac{5x+2}{x^2+10x+24}$$

$$\frac{(6x+6) - (5x+2)}{x^2+10x+24} =$$

$$\frac{6x+6-5x-2}{x^2+10x+24} =$$

$$\frac{x+4}{x^2+10x+24} =$$

$$\frac{\cancel{1(x+4)}}{(x+4)(x+6)} =$$

$$\frac{1}{x+6} =$$

Possible
24.1
12.2
6.4
3.8

$$\textcircled{110} \quad \frac{y-9}{4} = \frac{y}{7}$$

$$7(y-9) = 4(y) \quad \text{Cross Mult}$$

$$7y - 63 = 4y$$

$$7y - \cancel{63} + \cancel{63} = 4y + 63$$

$$7y = 4y + 63$$

$$7y - 4y = 4y + 63 - 4y$$

$$3y = 63$$

$$\frac{3y}{3} = \frac{63}{3}$$

$$y = 21$$

$\textcircled{111}$

$$\frac{5}{y} + \frac{2}{9} = \frac{7}{9y}$$

$$\frac{5(9y)}{y} + \frac{2(9y)}{9} = \frac{7(9y)}{9y}$$

$$5(9) + 2(y) = 7(1)$$

$$45 + 2y = 7$$

$$\cancel{45} + 2y - \cancel{45} = 7 - \cancel{45}$$

$$2y = -38$$

$$\frac{\cancel{2}y}{2} = \frac{-38}{2}$$

$$y = -19$$

$$\text{LCD} = 9y$$

Prime 2, 3, 5, 7...

$$\cancel{3} \cancel{9}$$

$$3 \cancel{3}$$

$$1$$

$$y = 7$$

$$9 = 3 \cdot 3$$

$$\text{LCD} = 3 \cdot 3 \cdot y$$

$$= 9y$$

112

$$\sqrt{144x^6}$$

$$\sqrt{12^2 x^6} =$$

$$12^{2/2} x^{6/2} = \text{divide power,}$$

$$12^1 x^3 =$$

$$12x^3 =$$

Prime 2, 3, 5, 7, ...

$$2 \overline{) 144}$$

$$2 \overline{) 72}$$

$$2 \overline{) 36}$$

$$2 \overline{) 18}$$

$$3 \overline{) 9}$$

$$3 \overline{) 3}$$

1

113

$$\sqrt[3]{343} =$$

$$\sqrt[3]{7^3} = \text{rewrite}$$

$$7^{3/3} = \text{divide power}$$

$$7^1 =$$

Prime 2, 3, 5, 7, ...

$$7 \overline{) 343}$$

$$7 \overline{) 49}$$

$$7 \overline{) 7}$$

1

114

$$\sqrt{\frac{16}{9}} =$$

$$\frac{\sqrt{16}}{\sqrt{9}} = \text{rewrite}$$

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

115

$$\left(\frac{1}{81}\right)^{\frac{1}{4}} =$$

$$\left(\frac{1}{3^4}\right)^{\frac{1}{4}} = \text{Kawan 4}$$

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

$$3^{\left(\frac{-4}{1}\right)\left(\frac{1}{4}\right)} =$$

$$3^{-\frac{4}{4}} =$$

$$3^{-1} =$$

$$\frac{1}{3^1} =$$

$$\frac{1}{3^1} =$$

Prima 2, 3, 5, 7, ...

$$3 \overline{) 81}$$

$$3 \overline{) 27}$$

$$3 \overline{) 9}$$

$$3 \overline{) 3}$$

$$1$$

116

$$81^{\frac{5}{4}} =$$

Prime 2, 3, 5, 7, ...

$$(3^4)^{\frac{5}{4}} = \text{rewrite}$$

$$3 \overline{) 81}$$

$$3 \overline{) 27}$$

$$3 \overline{) 9}$$

$$3 \overline{) 3}$$

$$3^{\left(\frac{4}{1}\right)\left(\frac{5}{4}\right)} = \text{mult power}$$

$$3^{\frac{20}{4}} =$$

$$3^5 =$$

$$(3)(3)(3)(3)(3) =$$

$$243 =$$

117

$$\sqrt{45} =$$

Prime 2, 3, 5, 7, ...

$$\sqrt{9 \cdot 5} = \text{rewrite}$$

$$\begin{array}{r} 3 \overline{) 45} \\ 3 \overline{) 5} \\ 5 \overline{) 5} \\ 1 \end{array}$$

$$\sqrt{9} \sqrt{5} =$$

$$3\sqrt{5} =$$

118 $\sqrt{36a^2b^7} =$ Primes 2, 3, 5, 7, ...

$$\sqrt{6^2 a^2 b^6 b^1} = \text{rewrite}$$

$$6^{2/2} a^{2/2} b^{6/2} \sqrt{b^1} =$$

divide 3
power 1

$$6^1 a^1 b^3 \sqrt{b^1} =$$

$$6ab^3\sqrt{b} =$$

119 $\sqrt{x-13} = 3$

$$(\sqrt{x-13})^2 = (3)^2$$

$$x-13 = 9$$

$$x-13+13 = 9+13$$

$$x = 22$$

CK $\sqrt{x-13} = 3$

$$\sqrt{22-13} = 3$$

$$\sqrt{9} = 3$$

$$3 = 3$$

Good

120

$$\sqrt{x+3} = \sqrt{2x-5}$$
$$(\sqrt{x+3})^2 = (\sqrt{2x-5})^2$$

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

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

$$x = 2x-8$$

$$1x-2x = 2x-8-2x$$

$$-1x = -8$$

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

$$x = 8$$

ck

$$\sqrt{x+3} = \sqrt{2x-5}$$

$$\sqrt{(8)+3} = \sqrt{2(8)-5}$$

$$\sqrt{8+3} = \sqrt{16-5}$$

$$\sqrt{11} = \sqrt{11}$$

Good

$$(121) \quad (x+5)^2 = 25$$

$$\sqrt{(x+5)^2} = \pm\sqrt{25}$$

$$x+5 = \pm 5$$

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

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

$$x = -10$$

$$\text{OR } x = 0$$

OK

$$(x+5)^2 = 25$$

$$(-10+5)^2 = 25$$

$$(-5)^2 = 25$$

$$(-5)(-5) = 25$$

$$25 = 25$$

Good

$$(x+5)^2 = 25$$

$$(0+5)^2 = 25$$

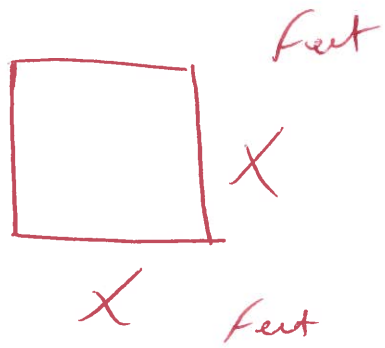
$$(5)^2 = 25$$

$$(5)(5) = 25$$

$$25 = 25$$

Good

122



If area is
find x

169 then
Square feet

$$A = L \cdot W$$

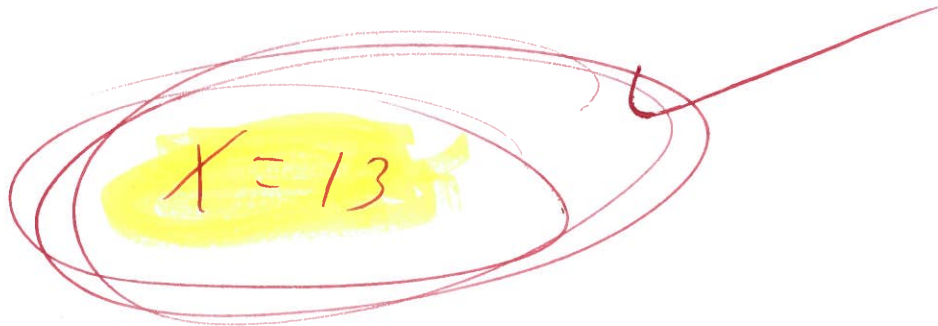
$$169 = (x)(x)$$

$$169 = x^2$$

$$\pm \sqrt{169} = \sqrt{x^2}$$

$$\pm 13 = x$$

~~$x = -13$~~ OR



OK

$$A = L \cdot W$$

$$A = (x)(x)$$

$$A = (13)(13)$$

$A = 169$ Square feet

123

$$m^2 - 7m + 6 = 0$$

$$(m-1)(m-6) = 0$$

$$\text{let } m-1=0 \quad \text{OR} \quad m-6=0$$

$$m-1+1=0+1 \quad \text{OR} \quad m-6+6=0+6$$

$$m=1$$

$$\text{OR } m=6$$

6.1 Possible
2.3

~~use Quadr formula~~

$$|m^2 - 7m + 6 = 0$$

$$a=1, b=-7, c=6$$

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

$$m = \frac{-(-7) \pm \sqrt{(-7)^2 - 4(1)(6)}}{2(1)}$$

$$m = \frac{7 \pm \sqrt{49 - 24}}{2}$$

$$m = \frac{7 \pm \sqrt{25}}{2}$$

$$m = \frac{7 \pm 5}{2}$$

$$m = \frac{7-5}{2} \quad \text{OR} \quad m = \frac{7+5}{2}$$

$$m = \frac{2}{2} \quad \text{OR} \quad m = \frac{12}{2}$$

$$m=1$$

$$\text{OR } m=6$$