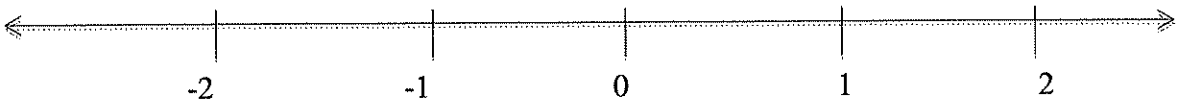
ARE YOU READY FOR MTH 65?

Below are some of the skills you should have BEFORE entering MTH 65.
Do not use a calculator.

1. $-4\,(5-7)^2-4\div 2=$

2. Place the following numbers on their approximate location on the number line:

$\frac{3}{4}$, 0.6, $|-.7|$, $\sqrt{4}$



3. Simplify: $7a + 2b - 3(2a + 5) + 8a$

4. Solve the following formula for the variable L: $A = LW$

5. Evaluate $b^2 - 2ab$ when a = -2 and b = -1

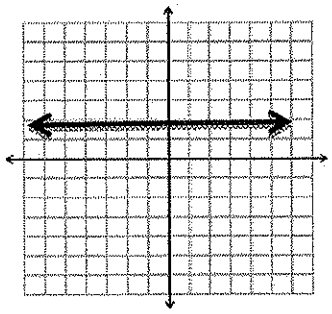
6. Solve: $-15 = -2 - (3x - 2) + 3$

7. Solve: $\frac{1}{3}x - \frac{1}{9} = \frac{1}{6}x + \frac{1}{2}$

8. Solve, graph on a number line, and express the solution set in interval notation for the following:

$8x - 4 \geq 9x - 6$

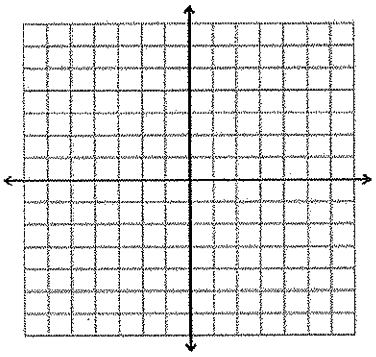
9. Write an equation for the following graph:



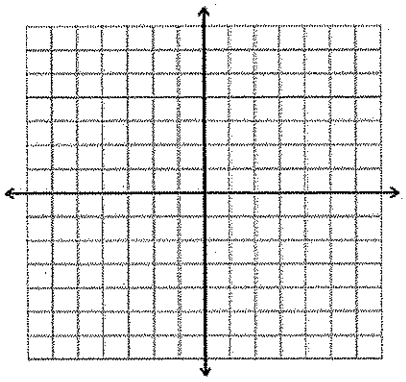
10. Graph the following equation and inequality below.

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

x	y



x	y



11. a) Given two points on a line, find the slope and indicate whether the line rises, falls, is horizontal, or is vertical. $(-3, 5)$ *and* $(-4, 2)$

12. Write the equation of the line in $y = mx + b$ form with slope 2 that passes through the point $(-1, -5)$.

13. A rectangular pool has a perimeter of 24 feet. Its length is 2 feet more than its width. Find the dimensions of the pool.

14. Candidate A received 2050 votes in the last election and won with 52% of the total number of votes cast in order to win. How many votes were cast in the last election? Round your answer to the nearest whole number.

{SOLUTIONS}

RU READY 4 MTH 65?

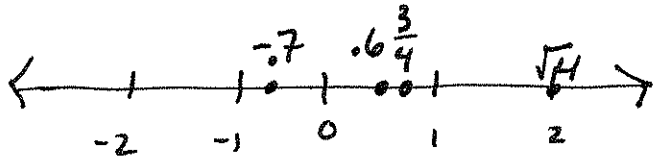
① $-4(5-7)^2-4\div 2$

$-4(-2)^2-2$

$-4(4)-2$

$-16-2$

$\boxed{-18}$

② 

③ $7a+2b-3(2a+5)+8a$

$7a+2b-6a-15+8a$

$\boxed{9a+2b-15}$

④ $\frac{A}{W}=\frac{LW}{W}$

$\boxed{L=\frac{A}{W}}$

⑤ b^2-2ab

$(-1)^2-2(-1)(-1)$

$1-2(-2)(-1)$

$1-4$

$\boxed{-3}$

⑥ $-15=-2-(3x-2)+3$

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

$-15=3-3x$

$+3 \quad +3$

$-12=-3x$

$\frac{-12}{-3}=\frac{-3x}{-3}$

$\boxed{x=4}$

7] $\left[\frac{1}{3}x-\frac{1}{9}=\frac{1}{6}x+\frac{1}{2}\right]18$

$6x-2=3x+9$

$-3x \quad -3x$

$3x-2=9$

$+2 \quad +2$

$3x=11$

$\boxed{x=11/3}$

⑧ $8x-4\geq 9x-6$

$-9x \quad -9x$

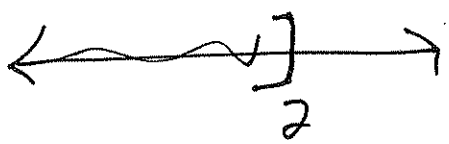
$-x-4\geq -6$

$+4 \quad +4$

$\frac{-x}{-1}\geq\frac{-2}{-1}$ Flip!

$x\leq 2$

$(-\infty, 2]$



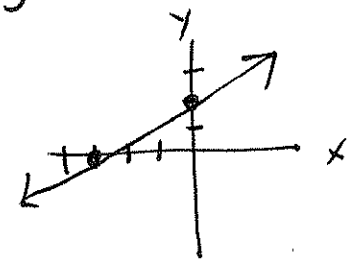
(Solutions)

(9) horizontal line

$y = 2$

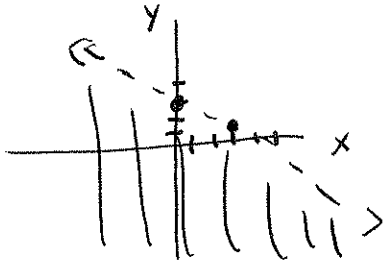
(10) $2x - 3y = -6$

x	y
0	2
-3	0



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

x	y
0	3
3	1



Test (0,0)

$0 < 0 + 3$

$0 < 3$

yes!

Shade below!

(11) (-3,5) (-4,2)

$$\frac{5-2}{-3-(-4)} = \frac{3}{-3+4} = \frac{3}{1} = 3$$

Rises!

(12) $y = mx + B$

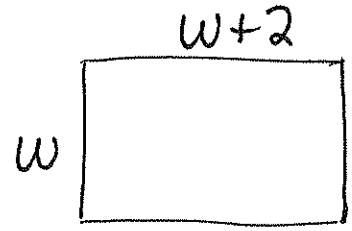
$-5 = 2(-1) + B$

$-5 = -2 + B$

$-3 = B$

$y = 2x - 3$

(13)



$P = 24'$

$24 = w + w+2 + w + w+2$

$4w + 4 = 24$

$-4 \quad -4$

$4w = 20$

$w = 5$

$l = 7$

5' by 7'

(small!!!)

(14) 2050 is 52% of x

$$\frac{2050}{.52} = \frac{.52x}{.52}$$

x = 3942 votes TOTAL

or

$$\frac{52}{100} = \frac{2050}{x}$$

$205000 = 52x$

$x = 3942$