HW SOL 4.3

October 2, 2020 9:11 AM

Name:_____ Date:_____

Math 9 HW Section 4.3 Graphing Lines in the form of Ax+By=C

1. Given each equation below, find the "X" and "Y" intercepts:

a) $2x+3y=6$ $y=0$ $2x=6$ $x=3$ x –Intercept : $(3,0)$ $x=0$ $3y=6$ $y=2$ y-Intercept: $(0,2)$	b) $4x+5y=10$ $y=0$ $4x=10$ $x=12\frac{1}{2}$ x –Intercept : $(\frac{5}{2},0)$ $x=0$ $5y=10$ $y=2$ y-Intercept: $(0,2)$	c) $4y-3x=24$ $-3x=24$ $x=-8$ x –Intercept : $(-8,0)$ $4y=24$ $y=6$ y-Intercept: $(0,6)$
d) $3x-4y=-12$ $3x=-12$ $x=-4$ x –Intercept : $(-4,0)$ $-4y=-12$ $y=3$ y-Intercept: $(0,3)$	e) $2y-3x=\frac{5}{2}$ x –Intercept : y-Intercept:	f) $x-y=2x-4$ $y=0$ $x=2x-4$ $+4 \quad +4$ $4=2x$ x –Intercept : $(4,0)$ $x=0$ $-y=2(0)-4$ $-y=-4$ $y=4$ y-Intercept: $(0,4)$
g) $y=3x-4$ $y=0$ $0=3x-4$ $+4 \quad +4$ $\frac{4}{3}=\frac{3x}{3}$ x –Intercept : $(\frac{4}{3},0)$ $x=0$ $y=3(0)-4$ $y=-4$ y-Intercept: $(0,-4)$	h) $\frac{3}{2}x+0.25y=12$ $y=0$ $\frac{3}{2}x=12$ $x=8$ x –Intercept : $(8,0)$ $x=0$ $0+0.25y=12$ $y=48$ y-Intercept: $(0,48)$	i) $\frac{y-2x}{3}=1$ $y=0$ $\frac{-2x}{3}=1$ $x=-\frac{3}{2}$ x –Intercept : $(-1\frac{1}{2},0)$ $x=0$ $\frac{y}{3}=1$ $y=3$ y-Intercept: $(0,3)$

$4y=2x$, $-x \quad -x$, $4=x$

2. Explain why the y-coordinate is zero when we are looking at the x-intercept:

AT THE 'x' AXIS, THE y-COORDINATE IS ZERO.
SINCE THE x-INT IS ON THE x-AXIS, THE y-VALUE IS ZERO.

3. Explain why the x-coordinate is zero when we are looking at the y-intercept:

AT THE y-AXIS, THE x COORDINATE IS ZERO.
SINCE THE y-INT IS ON THE y-AXIS, WE MAKE $x=0$.

4. Jack is taking the taxi and the cost "C" is given by the function: $C=2.5x+4$, where "x" the distance travelled in km. What does the y-intercept represent in this function?

5. Given each of the following line equations, which one has the largest y-intercept?

i) $2x+4y=12$, ii) $3y-3=12x$, iii) $3x-y=15$, iv) $y=3x-8$

i) $x=0$ $\quad 4y=12$ $\quad y=3$

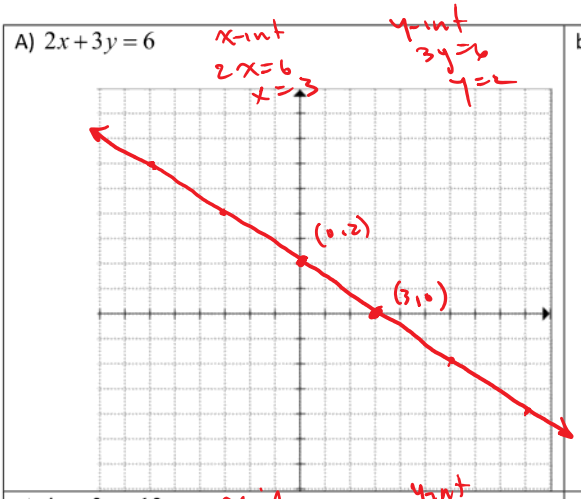
ii) $3y-3=0$ $\quad y=1$

iii) $-y=15$ $\quad y=-15$

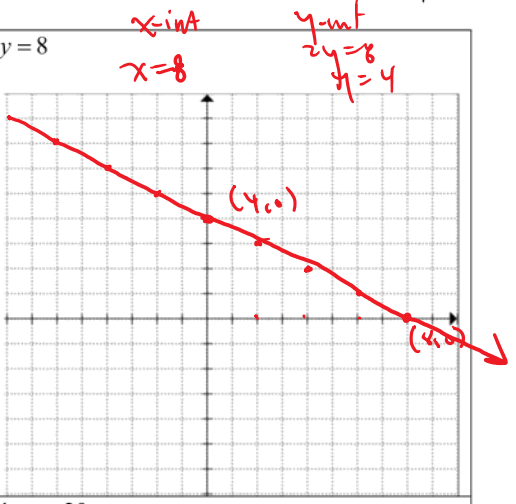
iv) $y=-8$.

6. Given the following equation, draw the graph with the grid provided. Label the coordinates of the intercepts:

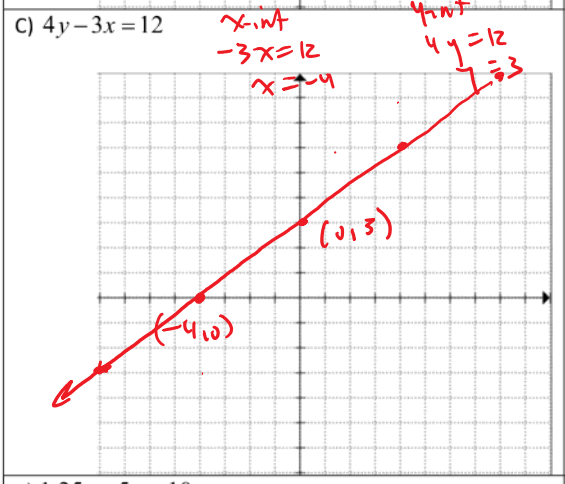
A) $2x+3y=6$



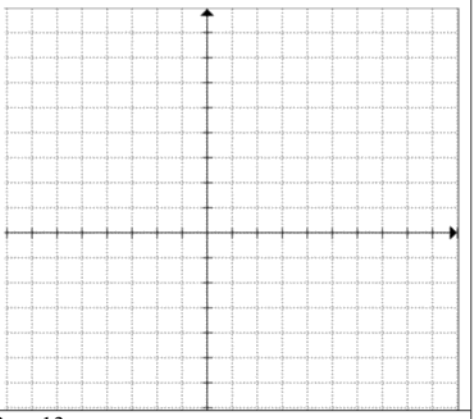
b) $x+2y=8$



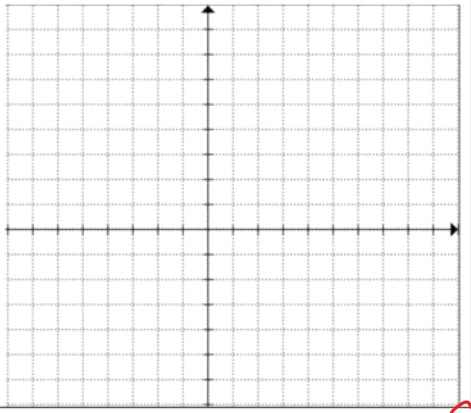
C) $4y-3x=12$



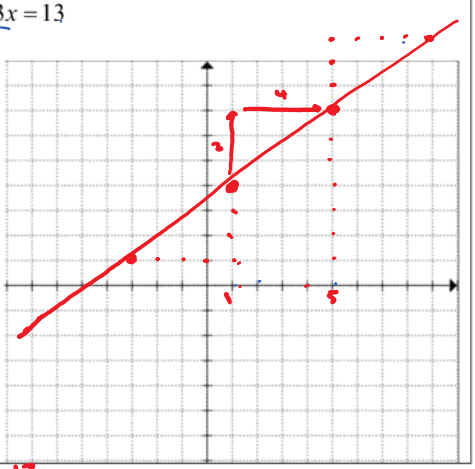
d) $5x-4y=-20$



e) $1.25x-5y=10$



f) $4y-3x=13$



$4y-3x=13$

x	y
1	4
2	19/4
3	5.5
4	25/4
5	7
9	
13	

$4y-3(1)=13$

$4y-3=13$

$4y=16$

$y=4$

$4y-3(4)=13$

$4y=25$

$y=\frac{25}{4}$

$4y-3(5)=13$

$4y=28$

$y=7$

$4y-3x=13$

$+3x \quad +3x$

① $ax+by=c$ vs ② $y=mx+b$

$4y - 3x = 13$

$+3x \quad +3x$

$4y = 3x + 13$

$y = \frac{3x}{4} + \frac{13}{4}$

$ax + by = c$ vs $y = mx + b$

$by = -ax + c$

$y = -\frac{a}{b}x + \frac{c}{b}$