Math 10D **Name:**_____
Unit 0 – Grade 9 Skills Review
Lesson 2: Solving Equations and Graphing Lines **Date:** _____

Equations – Solving For X

BEDMAS

Solve the following equations:

a.) $5x - 4 = 11$

$5x = 11 + 4$

$5x = 15$

$x = \frac{15}{5}$

$x = 3$

b.) $3x - 1 = x + 13$

$3x - x = 13 + 1$

$2x = 14$

$x = 7$

c.) $\frac{(x+4)}{8} = 7$

$x + 4 = 56$

$x = 56 - 4$

$x = 52$

d.) $\frac{x}{5} + 3 = -2$

$\frac{x}{5} = -2 - 3$

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

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

How to Clear Equations with Fractions

$$\frac{x}{4} + \frac{5}{2} = \frac{x}{2} - \frac{x}{3}$$

$3x$ $6x$ $6x$ $4x$

4 2 2 3 $\times 4$ LCD = 12

$\frac{3x}{12} + \frac{30}{12} = \frac{6x}{12} - \frac{4x}{12}$

$3x + 30 = 6x - 4x$

$30 = 6x - 4x - 3x$

$30 = -x$

$x = -30$

Solve for x:

$$\frac{2x}{7} - \frac{3x}{2} = \frac{x}{14} - \frac{36}{1}$$

LCD = 14

$\frac{4x}{14} - \frac{21x}{14} = \frac{+x}{14} - \frac{504}{14}$

$4x - 21x - x = -504$

$-18x = -504$

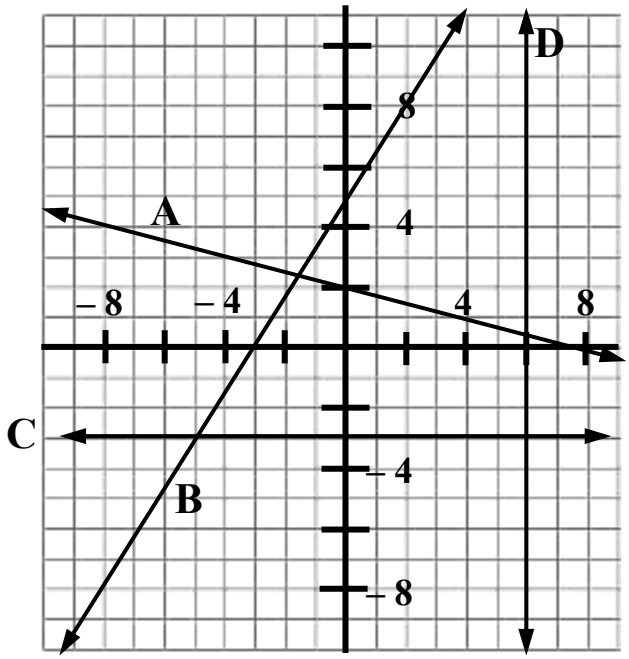
$x = \frac{-504}{-18} = 28$

$x = 28$

Graphing Review

Graphing Using Intercepts

1.) Identify the *x* and the *y*-intercepts:



Line A

⇨ X-intercept: (8, 0)

⇨ Y-intercept: (0, 2)

Line B

⇨ X-intercept: (−3, 0)

⇨ Y-intercept: (0, 5)

Line C

⇨ X-intercept: does not exist

⇨ Y-intercept: (0, −3)

Line D

⇨ X-intercept: (6, 0)

⇨ Y-intercept: does not exist.

SLOPE-POINT FORM EQUATIONS: $y = mx + b$

SLOPE = RISE / RUN

y-intercept (0, b)

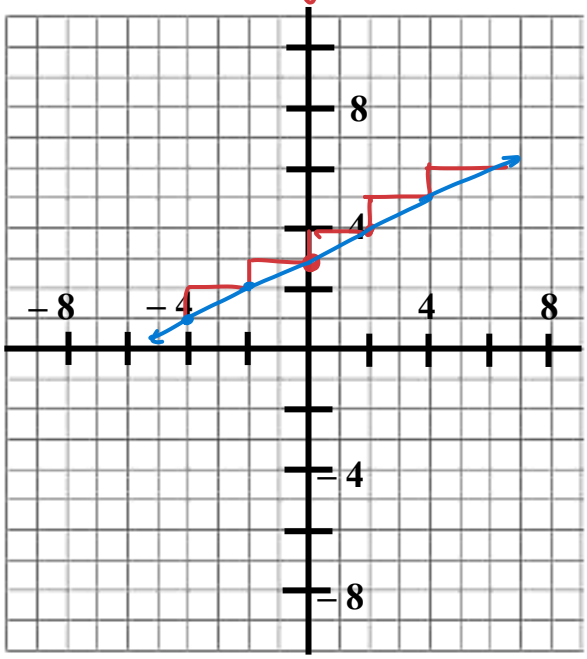
P(x, y)

4.) Graph $y = \frac{1}{2}x + 3$ on the Cartesian Plane:

$y = \frac{1}{2}x + 3$

m

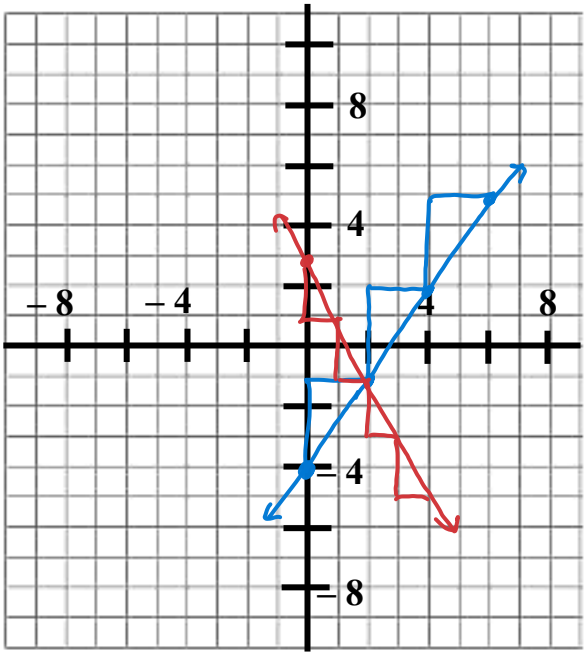
b



5.) Graph the following lines on the Cartesian Plane:

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

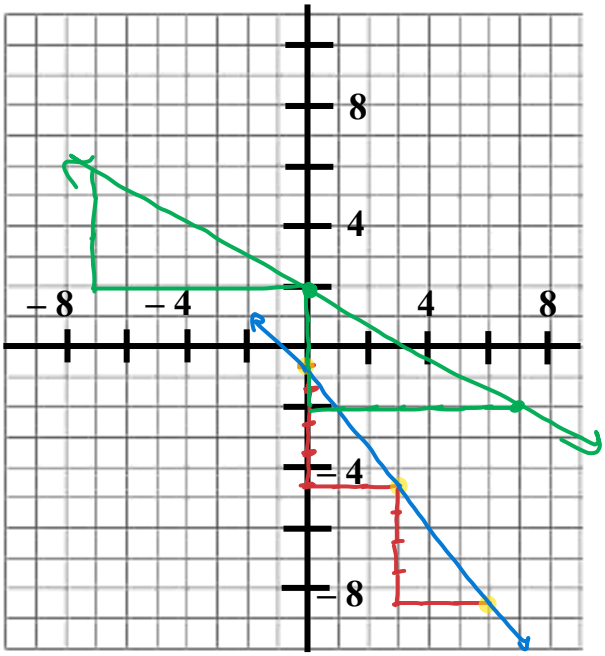
b.) $y = -2x + 3$



6.) Graph the following equations on the Cartesian Plane:

a.) $y = -\frac{4}{3}x - \frac{1}{2}$

$\frac{-4}{3}x - 0.5$



b.) $4x + 7y - 14 = 0$

$\frac{7y}{7} = \frac{-4x}{7} + \frac{14}{7}$

$y = -\frac{4}{7}x + 2$