Mathematics 10D

1.0 – Slope, Graphing and Solving Equations

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To succeed in unit 1, you will need these skills:

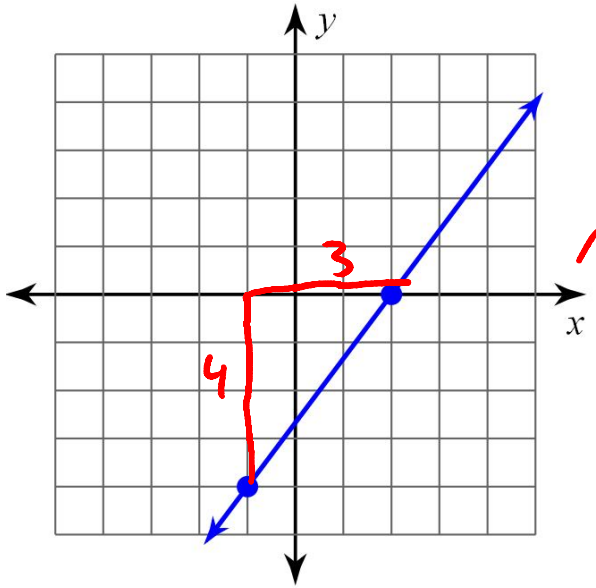
1. Finding Slope
2. Graphing Linear Equations
3. Solving Equations
4. Writing Equations
5. Fractions

$y = mx + b \rightarrow$ y-intercept

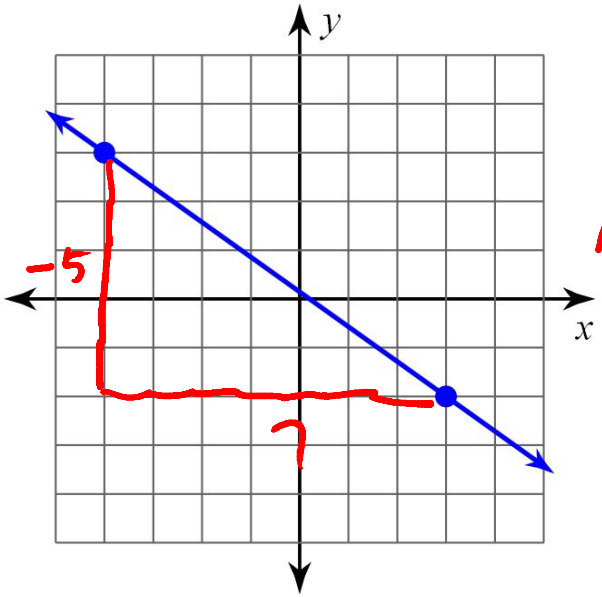
m → slope

$$m = \frac{\text{Rise}}{\text{Run}}$$

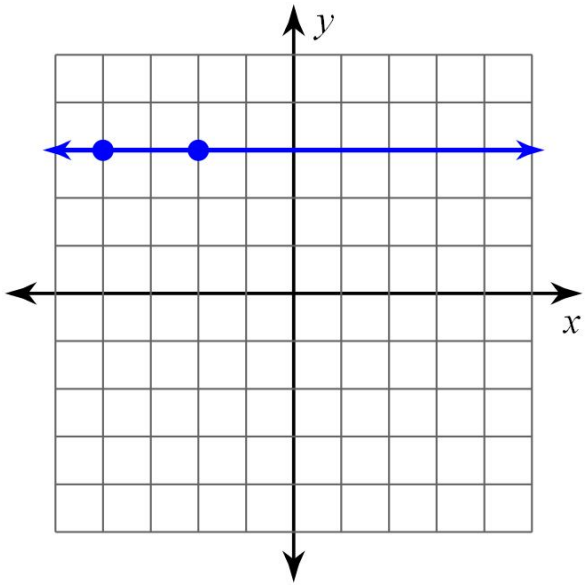
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$



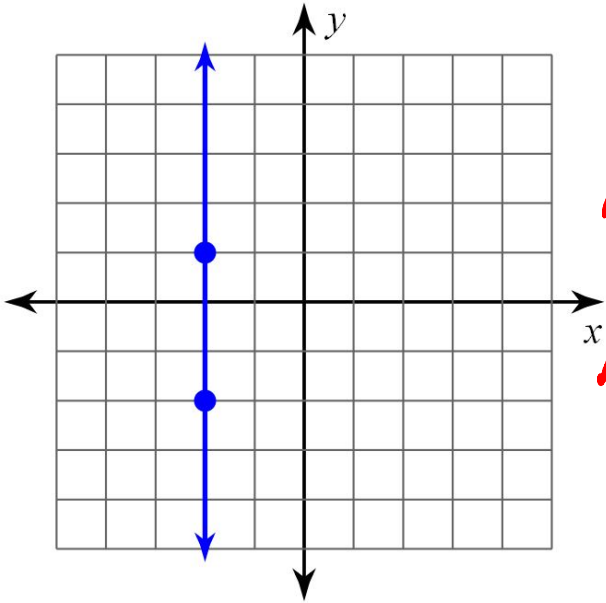
$m = \frac{4}{3}$



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



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



$m = \frac{3}{0}$

m = undefined

$x_1 \quad y_1 \quad x_2 \quad y_2$

$(-17, -9), (-11, 12)$

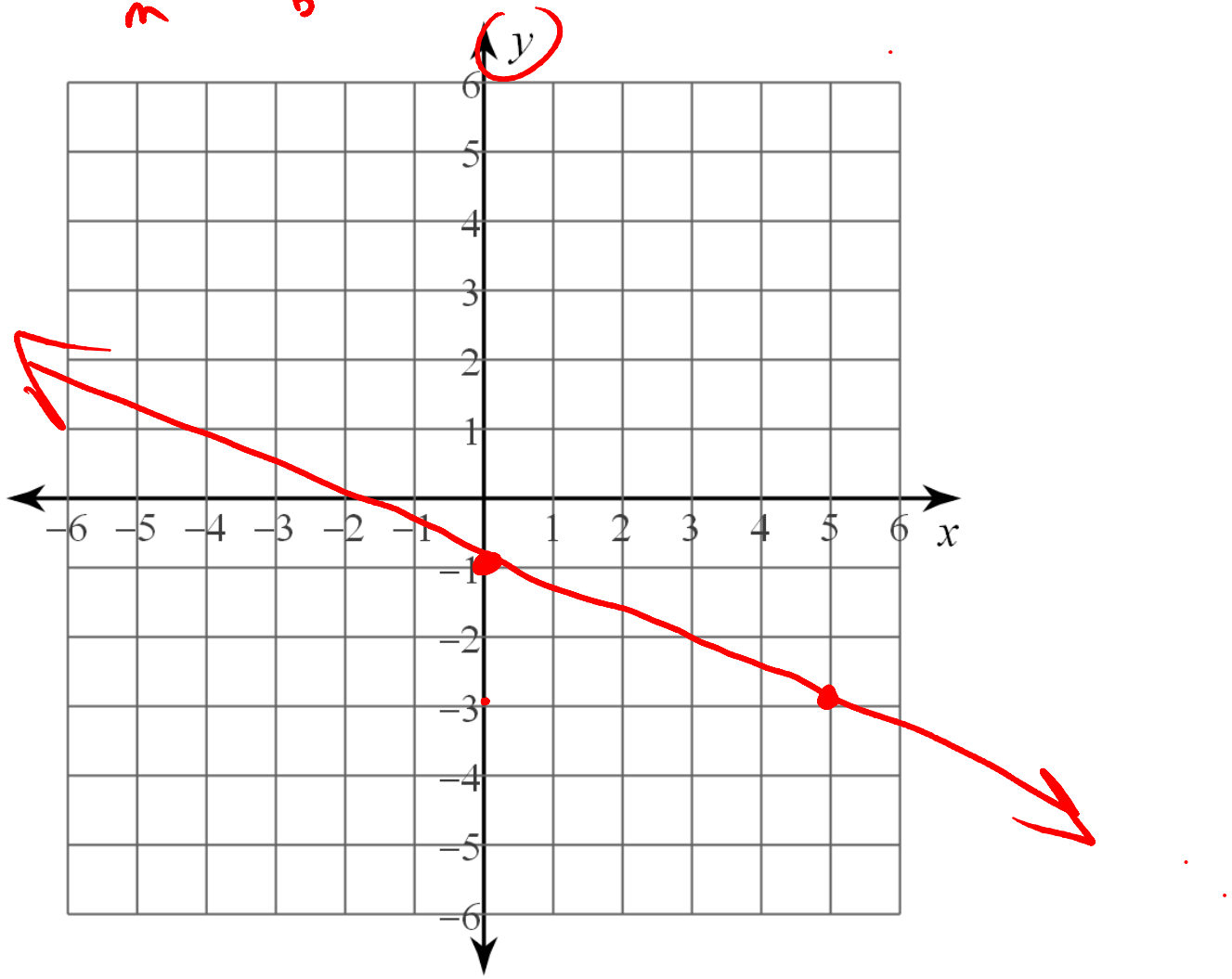
$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{12 - -9}{-11 - -17} = \frac{21}{6} = \frac{7}{2}$

$(18, 10), (16, 0)$

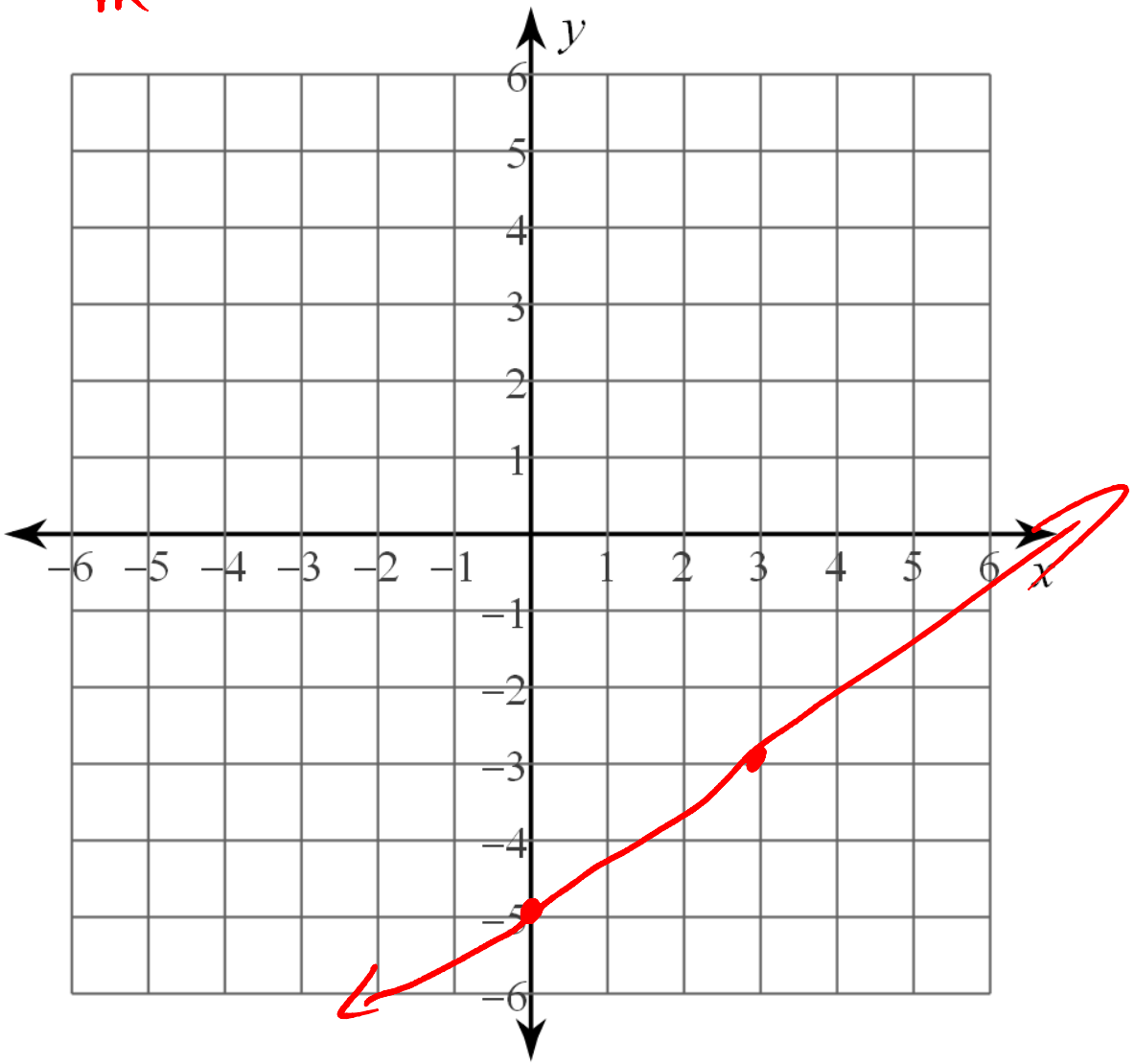
$m = \frac{0 - 10}{16 - 18} = \frac{-10}{-2} = 5$

$$y = -\frac{2}{5}x - 1$$

m = $-\frac{2}{5}$ b = -1



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

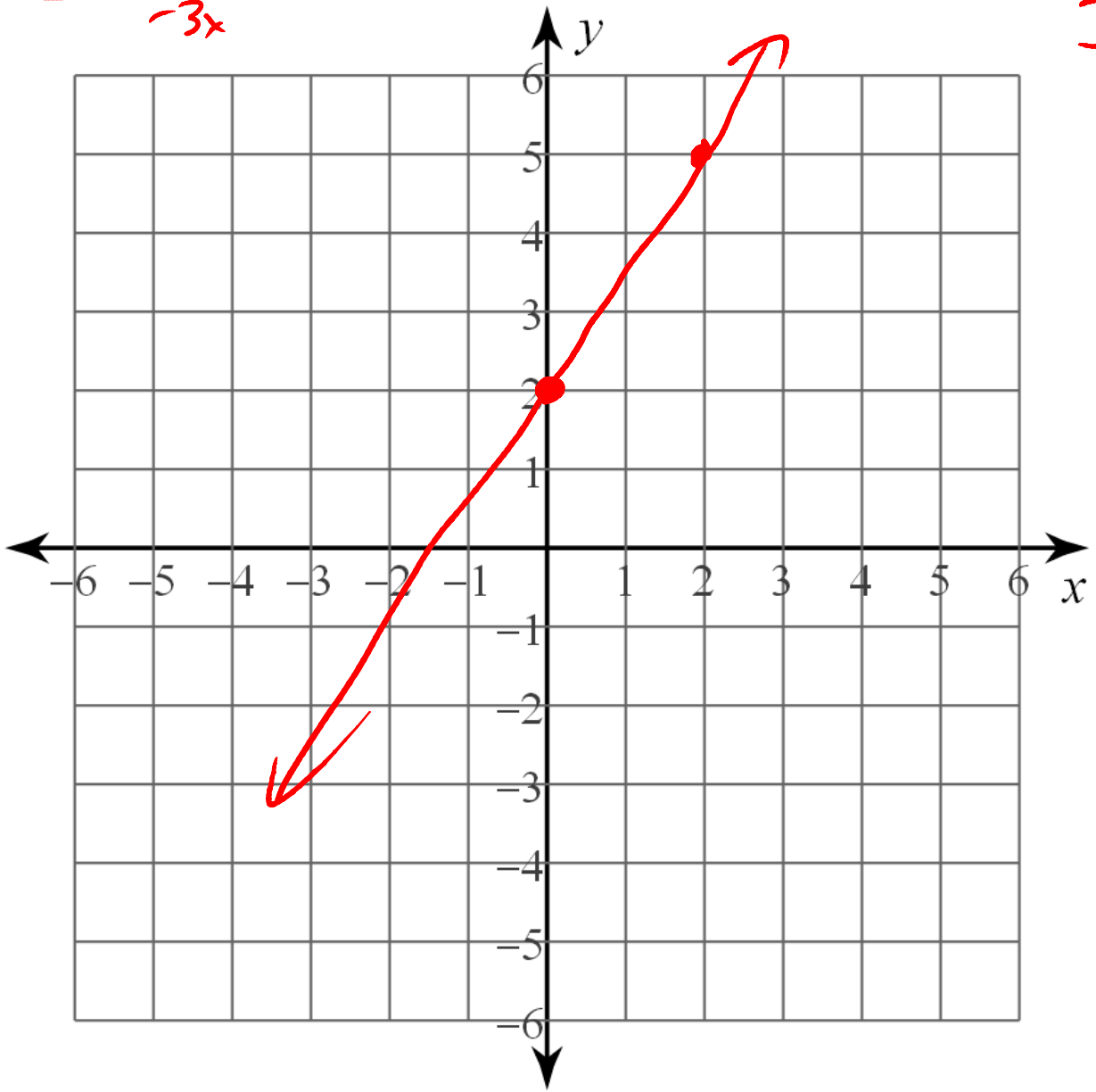


$$3x - 2y = -4$$

$-3x$

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

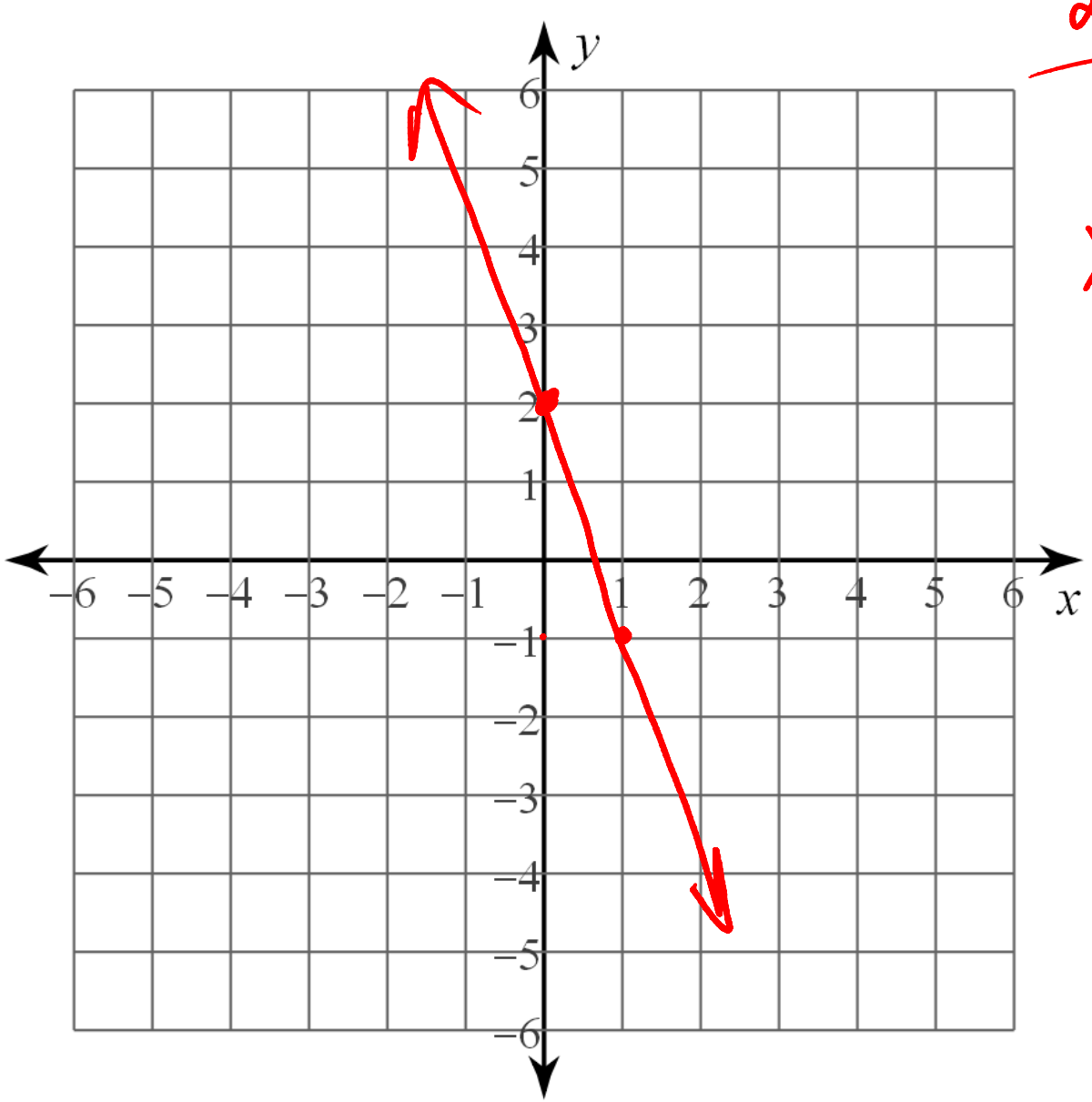
$$y = \frac{3}{2}x + 2$$



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

$$\frac{2y = -6x + 4}{2}$$

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



1. $x + 14 = 30$

$-14 \quad -14$

$x = 16$

2. $240 = 15p$

$\frac{240}{15} = \frac{15p}{15}$

$16 = p$

3. $-\frac{5}{3} = \frac{n}{9}$

$(9) \quad (9)$

$-\frac{45}{3} = n$

$-15 = n$

4. $-70 = -8x + 10$

$-10 \quad -10$

$\frac{-80}{-8} = \frac{-8x}{-8}$

$10 = x$

+5.51 +5.51

5. $-26.419 = -5.51 - 4.1x$

$\frac{-20.909}{-4.1} = \frac{-4.1x}{-4.1}$

$x = 5.1$

$5.099756 = x$

6. $-6 + 3(x + 5) = 6(x - 2)$

$-6 + 3x + 15 = 6x - 12$ (−3x; +12)

$\frac{21}{3} = \frac{3x}{3}$

$x = 7$