

1. Solve (isolate, get the variable by itself) the following for the given unknown "x":

(a)  $2x + 5 = -9$

$$2x = -14$$

$$x = -7$$

(b)  $4x - 8 = x + 16$

$$3x = 24$$

$$x = 8$$

(c)  $a = \frac{m}{x}$

$$x = \frac{m}{a}$$

2. Determine/describe the value of "a" for the following:

(i)  $a = 3m - 5n$

when "m" is 6 and "n" is -2.

$$a = 18 - (-10)$$

$$a = 28$$

(ii)  $a = \frac{5}{g} + 7$

when "g" is a very, very large, positive number

$$a = \frac{5}{\text{large}} + 7 \Rightarrow a \rightarrow 7$$

"a" gets close to "7"

(iii)  $a = -3 + \frac{2}{m}$

when "m" is very, very small magnitude, positive number

$$a = -3 + \frac{2}{\text{small}}$$

"a" is going to be a very large positive number

(iv)  $\frac{1}{a} = B - 33$

when "B" is a very large positive number

"a" will be a very small positive number.

3. For the two given points, A(-2,6) and B(8,-9)

- (i) What is the slope of the line?

$$m = \frac{-9-6}{8-(-2)}$$

$$m = \frac{-15}{10}$$

- (ii) What is the y intercept of the line?

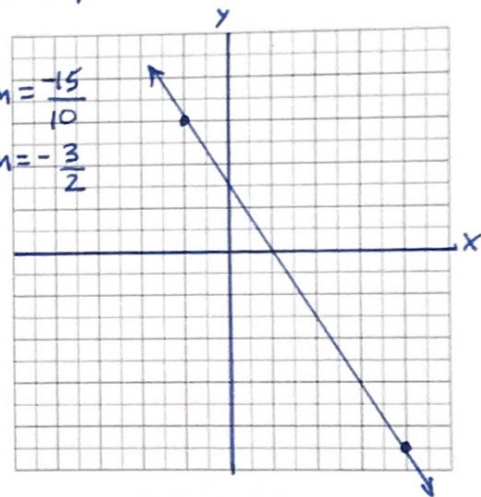
$$(0, 3)$$

- (iii) What is the x intercept of the line?

$$(2, 0)$$

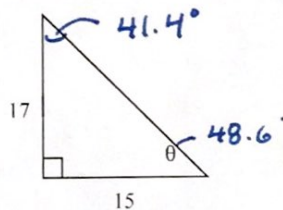
- (iv) What is the equation of the line?

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



4. Find the missing sides and angles for the following triangles using SOHCAHTOA and Pythagorean Theorem.

(a)



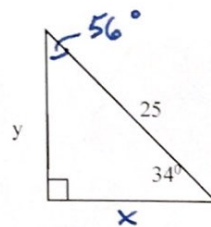
$$\tan \theta = \frac{17}{15}$$

$$\theta = 48.6^\circ$$

$$h = \sqrt{15^2 + 17^2}$$

$$h = 22.7$$

(b)



$$\sin 34^\circ = \frac{y}{25}$$

$$14 = y$$

$$\cos 34^\circ = \frac{x}{25}$$

$$x = 20.7$$