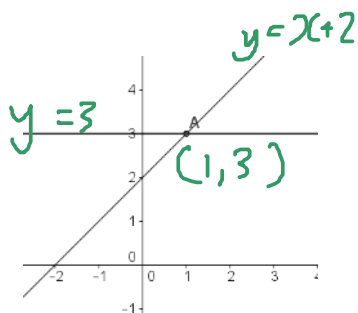


# Algebra lesson 12 quiz answers

Saturday, December 14, 2013  
11:28 AM

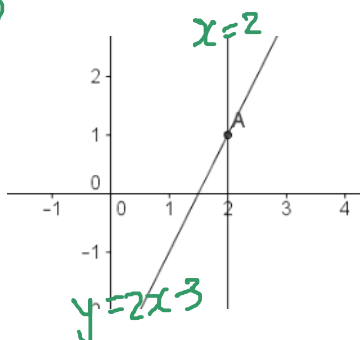
- 1) Find the simultaneous solutions to the following equations by  
a. Graphing.  
b. Substitution.

i)  $y = x + 2$  — ①  
 $y = 3$  — ②



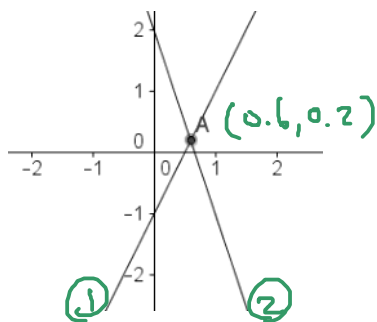
Substitution:  
Sub ① into ②  
 $x + 2 = 3$   
 $x = 3 - 2 = 1$   
 $y = 3$

ii)  $y = 2x - 3$  — ①  
 $x = 2$  — ②



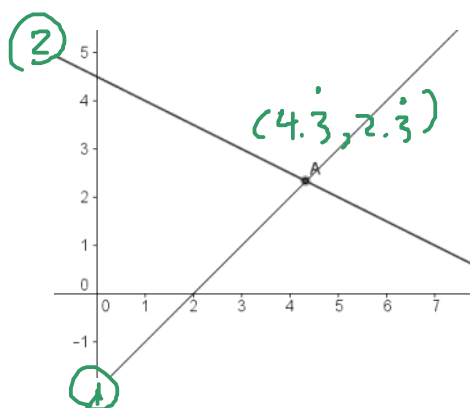
Substitution:  
sub ② into ①  
 $y = 2 \times 2 - 3$   
 $y = 4 - 3$   
 $y = 1$   
 $x = 2$

iii)  $y = 2x - 1$  — ①  
 $y = -3x + 2$  — ②



Sub ① into ②  
 $2x - 1 = -3x + 2$   
 $2x - 1 + 3x = -3x + 2 + 3x$   
 $5x - 1 = 2$   
 $5x = 3$   
 $x = \frac{3}{5} = 0.6$   
Sub  $x = 0.6$  into ①  
 $y = 2 \times 0.6 - 1$   
 $= 1.2 - 1 = 0.2$

iv)  $y + 2 = x$  — ①  
 $x + 2y = 9$  — ②



Rearrange ①:  $y + 2 = x$   
 $y = x - 2$

Rearrange ②:  $x + 2y = 9$

Sub ① into ②

$2y = -x + 9$   
 $y = -\frac{1}{2}x + 4.5$

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

$x + 2x - 4 = 9$

$3x - 4 = 9$

$3x = 13$

$x = \frac{13}{3} = 4.\dot{3}$

Sub  $x = \frac{13}{3}$  into ①

$y = \frac{13}{3} - 2$

$= \frac{13}{3} - \frac{6}{3}$

$= \frac{7}{3} = 2.\dot{3}$