

# Linear Equations Review



Name: \_\_\_\_\_

7 8 9 10 11 12



Navigator



Assessment



Student



25 min

## Question: 1

Determine the value of  $x$  that satisfies the equation:  $5(x-3)+10=30$

$$5x-15=20$$

$$5x=35$$

$$x=7$$

## Question: 2

Determine the value of  $x$  that satisfies the equation:  $4(x-5)+6=\frac{3(x+9)}{2}$

$$2 \times (4x-20+6) = 3x+27$$

$$8x-28=2x+27$$

$$5x=55$$

$$x=11$$

## Question: 3

If  $\frac{ax+b}{c} = d$  then it follows that  $x =$

a)  $\frac{cd}{a+b}$

b)  $\frac{d-c}{a+b}$

c)  $\frac{cd-b}{a}$

d)  $\frac{c(d-b)}{a}$

e)  $\frac{cd+b}{a}$

## Question: 4

Which one of the following points satisfies the relationship:  $x$  is 3 more than twice the value of  $y$ ?

a) (3, 2)

b) (2, 3)

c) (5, 8)

d) (5, 1)

e) (2, 7)

## Question: 5

A father ( $y$ ) is 26 years older than his daughter ( $x$ ). In three years the sum of their ages will be 80. The equations that describe this situation would be as follows:

a)  $y = x + 26$   
 $x + y + 6 = 80$

b)  $y = x + 26$   
 $x + y + 3 = 80$

c)  $x - y = 26$   
 $x + y + 3 = 80$

d)  $x - y = 26$   
 $x + y + 6 = 80$

e)  $y + 26 = x$   
 $x + y + 3 = 80$

**Question: 6**

$3x - 2y = 10$  is multiplied by  $m$  and  $4x + 3y = 36$  is multiplied by  $n$ , the resulting equations are added together to produce:  $17x = 102$ . The values of  $m$  and  $n$  could be:

- a)  $m = 3$   
 $n = 4$       b)  $m = 4$   
 $n = 3$       c)  $m = 2$   
 $n = 3$       d)  $m = 3$   
 $n = -2$       e)  $m = 3$   
 $n = 2$

**Question: 7**

The pair of simultaneous equations:  $3x + 2y = 6$  and  $y = mx + 5$  has no solutions. The value of  $m$  could therefore be:

- a)  $\frac{3}{2}$       b)  $-\frac{3}{2}$       c)  $\frac{2}{3}$       d)  $-\frac{2}{3}$       e)  $-3$

**Question: 8**

Renee spent \$33.00 buying 6kg of apples and 3kg of bananas. Alex spent \$21.40 buying 2kg of apples and 5kg of bananas. How much do bananas cost per kg?

- a) \$11.00      b) \$4.20      c) \$3.30      d) \$3.00      e) \$2.60

**Question: 9**

Sam has scored 85, 80, 92 and 87 on her tests to date. There are two tests remaining in the semester. Sam wants to finish the semester with an average score of 83. What will she need to average in the next two tests to achieve this result?

$$\frac{85 + 80 + 92 + 87 + 2x}{6} = 83$$

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$$x = 77$$


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**Question: 10**

The first two lanes of a 400m athletics track are shown. The lane width is 1.25m, this means the person in the second lane would need to run further were it not for the staggered start. The distance between successive starting points in the stagger would be closest to:

- a) 1.25m  
b) 2.50m  
c) 3.9m  
d) 7.9m  
e) 8.5m

