COMPOSITE TEST SOLUTIONS 1-4

Question 1

If $y = \frac{x+2}{x-3}$, what is x in terms of y?

A. $\frac{3y-2}{y+1}$ B. $\frac{3y+2}{y-1}$ C. $\frac{2-3y}{1+y}$ D. $\frac{2+3y}{1-y}$

Solution

Cross multiply: $xy-3y=x+2$

Re-arrange: $\therefore xy-x=3y+2$

Factorise: $\therefore x(y-1)=(3y+2)$

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

So, the correct answer is B.

Question 2

For what value of x will the expression $\frac{x-2}{(x+3)(x-4)}$ be equal to zero?

A. -3 B. 0 C. 2 D. 4

Solution

If $\frac{x-2}{(x+3)(x-4)}=0$ What will make $\frac{a}{b\times c}=0$?

then $x-2=0$

$\therefore x=2$

So, the correct answer is C.

Question 3

If sin 2*A* = 2sin *A* and $0^0 \leq A \leq 90^0$, what is the value of *A*?

A. 0^0 B. 30^0 C. 45^0 D. 60^0

Solution

$$\sin 2A = 2\sin A$$

$$\therefore 2\sin A\cos A = 2\sin A$$

$$\therefore 2\sin A\cos A - 2\sin A = 0$$

$$\therefore 2\sin A(\cos A - 1) = 0$$

$$\therefore \sin A = 0 \text{ or } \cos A = 1$$

$$\therefore A = 0^0$$

So, the correct answer is A.

Question 4

A square of side 8 cm is drawn to represent 400 voters for Party X. What would be the side of a comparable square drawn to represent 100 voters for Party Y?

A. 1 cm B. 2 cm C. 4 cm D. 16 cm

Solution

400 voters are represented by 8 x 8 =64 cm^2

$\therefore$ 100 voters are represented by $\frac{64}{4} = 16$ cm^2

$$= 4 \times 4$$

$\therefore$ 100 voters are represented by a square of side 4 cm

So, the correct answer is C.