



Algebra Questions for IBPS Clerk set-2 PDF

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Instructions

For the following questions answer them individually

Question 1

The value of x for which the expressions $19 - 5x$ and $19x + 5$ become equal is

- A $7/12$
- B $-7/12$
- C $-12/7$
- D $12/7$

Answer: A

Explanation:

Expressions : $19 - 5x$ and $19x + 5$

$$\Rightarrow 19 - 5x = 19x + 5$$

$$\Rightarrow 19x + 5x = 19 - 5$$

$$\Rightarrow 24x = 14$$

$$\Rightarrow x = \frac{14}{24} = \frac{7}{12}$$

\Rightarrow Ans - (A)

Question 2

If $7 + 4x > 3 + 3x$ and $3x - 2 < 5 - x$; then x can take which of the following values?

- A 2
- B 3
- C 1
- D -5

Answer: C

Explanation:

Expression 1 : $7 + 4x > 3 + 3x$

$$\Rightarrow 4x - 3x > 3 - 7$$

$$\Rightarrow x > -4 \text{ -----(i)}$$

Expression 2 : $3x - 2 < 5 - x$

$$\Rightarrow 3x + x < 5 + 2$$

$$\Rightarrow 4x < 7$$

$$\Rightarrow x < \frac{7}{4} \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $-4 < x < \frac{7}{4}$

Thus, x can take values = $-3, -2, -1, 0, 1$

\Rightarrow Ans - (C)

Question 3

If $3x^2 = 10^2 - 5^2$, find the value of x ?

- A 7
- B 5
- C 9
- D 11

Answer: B

Explanation:

Expression : $3x^2 = 10^2 - 5^2$

$\Rightarrow 3x^2 = 100 - 25$

$\Rightarrow 3x^2 = 75$

$\Rightarrow x^2 = \frac{75}{3} = 25$

$\Rightarrow x = \sqrt{25} = 5$

\Rightarrow Ans - (B)

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Question 4

If $(7x - 13) - (12x + 3) = 14$, then the value of x is _____ .

- A -6
- B 6
- C 2/5
- D -2/5

Answer: A

Explanation:

Expression : $(7x - 13) - (12x + 3) = 14$

$\Rightarrow 7x - 13 - 12x - 3 = 14$

$\Rightarrow -5x - 16 = 14$

$\Rightarrow -5x = 16 + 14 = 30$

$\Rightarrow x = \frac{30}{-5} = -6$

\Rightarrow Ans - (A)

Question 5

If $2 + 2x < 5 - x/2$ and $5x + 3 > 5 - 5x$; then x can take which of the following values?

- A 2
- B 0
- C -2
- D 1

Answer: D

Explanation:Expression 1 : $2 + 2x < 5 - x/2$

$$\Rightarrow 2x + \frac{x}{2} < 5 - 2$$

$$\Rightarrow \frac{5x}{2} < 3$$

$$\Rightarrow x < \frac{6}{5} \text{ -----(i)}$$

Expression 2 : $5x + 3 > 5 - 5x$

$$\Rightarrow 5x + 5x > 5 - 3$$

$$\Rightarrow 10x > 2$$

$$\Rightarrow x > \frac{1}{5} \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $\frac{1}{5} < x < \frac{6}{5}$ Thus, the only value that x can take = 1 \Rightarrow Ans - (D)**Question 6**If $(x + y):(x - y) = 5:2$, find value of $(4x + 5y) / (x - 4y)$ **A** 43/5**B** -5/43**C** -43/5**D** 5/43**Answer: C****Explanation:**

Given : $\frac{x+y}{x-y} = \frac{5}{2}$

$$\Rightarrow 2x + 2y = 5x - 5y$$

$$\Rightarrow 2y + 5y = 5x - 2x \Rightarrow 7y = 3x$$

$$\Rightarrow y = \frac{3x}{7}$$

To find : $\frac{4x+5y}{x-4y}$

$$= [4x + 5(\frac{3x}{7})] \div [x - 4(\frac{3x}{7})]$$

$$= (4x + \frac{15x}{7}) \div (x - \frac{12x}{7})$$

$$= (\frac{43x}{7}) \div (\frac{-5x}{7})$$

$$= \frac{43x}{7} \times \frac{-7}{5x} = \frac{-43}{5}$$

 \Rightarrow Ans - (C)**IBPS Clerk Previous Papers (Download PDF)****Question 7**The value of x for which the expressions $11x + 7$ and $17x - 1$ become equal is _____.**A** -4/3**B** 3/4

C $\frac{4}{3}$

D $-\frac{3}{4}$

Answer: C

Explanation:

Expressions : $11x + 7$ and $17x - 1$

$$\Rightarrow 11x + 7 = 17x - 1$$

$$\Rightarrow 17x - 11x = 7 + 1$$

$$\Rightarrow 6x = 8$$

$$\Rightarrow x = \frac{8}{6} = \frac{4}{3}$$

\Rightarrow Ans - (C)

Question 8

If $2x + 3y = 0$ and $3x - 4y = 34$, then $x - y =$

A 10

B -10

C 2

D -2

Answer: A

Explanation:

Equation 1 : $2x + 3y = 0$

Multiplying by 3 on both sides, we get : $6x + 9y = 0$ -----(iii)

Equation 2 : $3x - 4y = 34$

Multiplying by 2 on both sides, $\Rightarrow 6x - 8y = 68$ -----(iv)

Subtracting equation(iv) from (iii),

$$\Rightarrow (6x - 6x) + (9y + 8y) = (0 - 68)$$

$$\Rightarrow 17y = -68$$

$$\Rightarrow y = \frac{-68}{17} = -4$$

Substituting it in equation (i), we get : $2x + 3(-4) = 0$

$$\Rightarrow 2x = 12$$

$$\Rightarrow x = \frac{12}{2} = 6$$

$$\therefore (x - y) = 6 - (-4) = 6 + 4 = 10$$

\Rightarrow Ans - (A)

Question 9

If $5 - 3x < 4 - x$ and $5(2 - x) > 2 - 2x$, then x can take which of the following values?

A 0

B -1

C 1

D 3

Answer: C

Explanation:

Expression 1 : $5 - 3x < 4 - x$

$$\Rightarrow 3x - x > 5 - 4$$

$$\Rightarrow 2x > 1$$

$$\Rightarrow x > \frac{1}{2} \text{-----(i)}$$

Expression 2 : $5(2 - x) > 2 - 2x$

$$\Rightarrow 10 - 5x > 2 - 2x$$

$$\Rightarrow 5x - 2x < 10 - 2$$

$$\Rightarrow 3x < 8$$

$$\Rightarrow x < \frac{8}{3} \text{-----(ii)}$$

Combining inequalities (i) and (ii), we get : $\frac{1}{2} < x < \frac{8}{3}$

The only value that x can take among the given options = 1

\Rightarrow Ans - (C)

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Question 10

If $a:b = 3:8$, find the value of $(5a - 3b)/(2a + b)$.

A 9/14

B 14/9

C -9/14

D -14/9

Answer: C

Explanation:

It is given that $a : b = 3 : 8$

Let $a = 3$ and $b = 8$

To find : $\frac{5a-3b}{2a+b}$

$$= \frac{(5 \times 3) - (3 \times 8)}{(2 \times 3) + (8)}$$

$$= \frac{(15 - 24)}{(6 + 8)} = \frac{-9}{14}$$

\Rightarrow Ans - (C)

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