

Class: 6
Subject: Mathematics
Topic: Algebra
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

1. Simplify : $(x^2 - y^2 + 2xy + 1) - (x^2 + y^2 + 4xy - 5)$.

- A. $-2y^2 - 2xy + 6$
- B. $2y^2 + 2xy + 6$
- C. $2xy^2 - 2xy + 6$
- D. $-2y^2 - 2xy - 6$

Sol: A

$$x^2 - y^2 + 2xy + 1 - x^2 - 4xy + 5$$
$$-2y^2 - 2xy + 6$$

2. Half of a number is added to 18, then the sum is 46. The number is

- A. 92
- B. 56
- C. 65
- D. 0

Sol: B

Let number be x

$$\text{Half number} = \frac{x}{2}$$

After adding 18

$$\text{Number} = \frac{x}{2} + 18$$

ATQ

$$\frac{x}{2} + 18 = 46$$

$$\frac{x}{2} = 46 - 18 = 28$$

$$X = 56$$

3. An algebraic expression $11 - y$ can be written in statement as

- A. 11 less than y
- B. y less than 11
- C. y more than 11
- D. y divided by 11

Sol: B

Fact

4. In $6(2a-1) + 8 = 14$, the value of 'a' is

A. - 1

B. $3\frac{1}{12}$

C. $\frac{4}{10}$ s

D. +1

Sol: D

$$6(2a - 1) + 8 - 8 = 14 - 8$$

$$\frac{6(2a-1)}{6} = \frac{6}{6}$$

$$2a-1 = 1$$

$$2a-1+1 = 1+1$$

$$2a = 2$$

$$a = 1$$

5. Equation for the statement: 'thrice the length of a room is 340 metres' is

A. $3l = 430$

B. $3l = 340$

C. $3 + l = 340$

D. $3l + 340 = 0$

Sol: B

Factual

6. In $\frac{a}{8} + \frac{a}{4} = 6$, the value of a is

A. 122

B. -16

C. 16

D. 0

Sol: C

Taken the LCM and Proceed

7. I had Rs. 200 with me. I gave Rs. x to Anwar, Rs. $\frac{x}{2}$ to vidhu and I am left with Rs. $\frac{x}{2}$ the amount I gave to vidhu is

A. Rs. 50

B. Rs.40

C. Rs.30

D. Rs.15

Sol: A

Total amount = Amount given to anwar + Amount given to vidhu + amount left

$$200 = x + \frac{x}{2} + \frac{x}{2}$$

$$2x = 200$$

$$x = 100$$

$$\begin{aligned} \text{Amount given to vidhu} &= \frac{x}{2} \\ &= 50 \end{aligned}$$

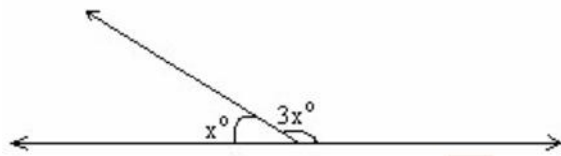
8. Rakhi travelled $4x$ km on foot, $2y$ km by cycle and 9 km by bus. The total distance covered by Rakhi by an algebraic expression is

- A. $(x + y + 1)$ km
- B. $(4x + 2y + 9)$ km
- C. $(x - y + 2)$ km
- D. $(2x + 3y + 1)$ km

Sol: B

Factual

9. In the given figure magnitudes of angles shown are



- A. $40^\circ, 120^\circ$
- B. $30^\circ, 90^\circ$
- C. $45^\circ, 135^\circ$
- D. $50^\circ, 150^\circ$

Sol: C

$$x^\circ + 3x^\circ = 180^\circ \text{ (Linear pair)}$$

$$4x^\circ = 180^\circ$$

$$x = 45^\circ$$

10. To get the value of 'a' to be divided on either side of equation $6a = 30$.

- A. -6
- B. +30
- C. +6
- D. 0

Sol: C

Fact

11. When Raju multiplies a certain number by 17 and adds 4 to the product, he gets 225 . Find that number.

- A. 13
- B. 14
- C. 15
- D. 16

Sol: A

$$17x + 4 = 225$$

$$17x = 221$$

$$x = 13$$

12. The equation for the statement; 'half of a number added to 10 is 15' is

- A. $\frac{x}{2} = 10 + 5$
- B. $\frac{x}{2} = 10 + 15$
- C. $\frac{x}{2} = 15 = 10$
- D. $\frac{x}{2} = 10 + 15$

Sol: B
Factual

13. Meera bought x packs of trading cards that contain 10 cards each. She gave away 7 cards.
x = Number of packs of trading cards. Which expression shows the number of cards left with Meera?

- A. $10x - 7$
- B. $7x - 8$
- C. $5 - 10x$
- D. $8 - 5x$

Sol: A
Factual

14. Ages of two friends are in the ratio 2: 1. If the sum of their ages is 51, then their ages are

- A. 34 yrs, 20 yrs
- B. 34 yrs, 17 yrs
- C. 20 yrs, 10 yrs
- D. 30 yrs, 15 yrs

Sol: B
Friend's age $2x, x$
 $2x + x = 51$
 $3x = 51$
 $x = 17$

15. Number to be added on L.H.S. of equation $y - 8 = 6$ to find the value of 'y', is

- A. -8
- B. 14
- C. 0
- D. -6

Sol: B
 $Y - 8 + 8 = 6 + 8$
 $Y = 14$

16. Power of a variable in a linear equation is

- A. 0
 - B. One
 - C. Two
 - D. Three
- Sol: B
Factual

17. Value of x in $\frac{x}{4} + \frac{1}{2} = 4$

- A. + 28
 - B. - 28
 - C. + 14
 - D. - 14
- Sol: C
 $\frac{x}{4} + \frac{1}{2} = 4$
 $\frac{x}{4} = 3\frac{1}{2} = \frac{7}{2}$
 $X = 7 \times 2 = 14$

18. If $a = b$ then $ax = \dots\dots\dots$

- A. $a + x$
 - B. bx
 - C. $b - x$
 - D. $b \div x$
- Sol: B
 $A = B$
Multiplying by x on both sides
 $Ax = Bx$

19. $\frac{3}{4}X + 8 = 17$, then the value of x is

- A. -12
 - B. + 36
 - C. + 12
 - D. ~ 36
- Sol: C
 $\frac{3}{4}x + 8 = 17$
 $\frac{3}{4}x = 9$
 $x = \frac{9 \times 4}{3} = 12$

20. The method of finding solution by trying out various values for the variable is called

- A. Error method
- B. Trial and error method
- C. Testing method
- D. Checking method

Sol: B
Factual

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