

SYMBOLS AND NOTATIONS

The questions can be based on

Blood Relations Mathematical Operations (or Operator based questions)

1. Blood Relations

$P \times Q$ means P is the mother of Q

$P + Q$ means P is the father of Q

$P - Q$ means P is the son of Q

Which of the following means A is the Grandson of D ?

- (1) $A \times C + D$
- (2) $A + B + D$
- (3) $D + B + A$
- (4) $A - B - D$

Explanation:

$A \times C + D$ means A is the mother of C and C is the father of D Grandchild of A

$A + B + D$ means A is the father of B and B is the father of D. Hence D is the Grandchild of A

$D + B + A$ means D is the father of B and B is the father of A. Here A is the Grand child of D, but we don't know whether he is the Grandson or Granddaughter of D

$A - B - D$ means A is the son of B and B is the son of D. Hence, A is the Grandson of D

2. Mathematical Operations

If '+' stands for '-', '-' stands for 'x', 'x' stands for '÷' and '÷' stands for '+' then what is the value of $56 \times 7 \div 13 - 11 + 15 - 8 \div 2 - 7$?

- (1) 30
- (2) 45
- (3) 60
- (4) 90

Explanation:

Changing the symbols as given in the problem the above expression is

$$56 \div 7 + 13 \times 11 - 15 \times 8 + 2 \times 7$$

Solving the BODMAS rule, we get $8 + 143 - 120 + 14 = 165 - 120 = 45$

Direction: Study the following sequence carefully and answer the questions given below:

1. If '-' stands for 'x', 'x' stands for '+', '+' stands for '÷' and '÷' stands for '-', then what is the value of $9 \div 18 \times 15 + 3 - 6 \times 12$?

- (a) 24 (b) 30 (c) 33 (d) 42 (e) 58

2. If $a \$ b = a^2 b^2 - ab$, then $3 \$ 8 =$

- (a) 600 (b) 552 (c) 576 (d) 625 (e) 676

3. If $p \emptyset q = p^2 + q^2 - p - q$ and $p ? q = pq - p - q$, then $(6 \emptyset 5) ? 5 =$

- (a) 200 (b) 175 (c) 195 (d) 179 (e) 225

4. If $4 \odot 5 = 189$ and $10 \odot 8 = 1512$, then $6 \odot 9 =$

- (a) 945 (b) 1148 (c) 983 (d) 764 (e) 932

5. If '?' means 'is less than', '\$' means 'is greater than' and £ means 'is equal to' and given that $a > b, c \leq d$ and $c \leq b$, then which of the following is true ?

- (a) $d > a$ (b) $b \leq d$ (c) $a \leq c$ (d) $a > b > c$ (e) $a > c$

6. If 'x' means 'added to', '÷' means 'multiplied by'; '+' means 'subtracted from' and '-' means 'divided by', then simplify $24 + 36 - 12 \times 8 \div 4 = ?$

- (a) 36 (b) 53 (c) 5 (d) 20 (e) None of these

7. If A means '-', B means '÷', C means '+', and D means 'x', then $15B3C24A12D2 = ?$

- (a) 2 (b) $5/9$ (c) $-23\frac{1}{9}$ (d) 34 (e) 5

8. If 'W' means ÷, 'X' means '+', 'Y' means '-' and 'Z' means 'x' then $28Z3Y4x12W6 = ?$

- (a) 27 (b) 82 (c) 39 (d) 53 (e) 11

9. If '+' means '÷', '÷' means 'x', 'x' means '-' and '-' means '+', then $10 + 2 \div 5 - 3 \div 4 + 2 - 1 = ?$

- (a) 32 (b) 50 (c) 45 (d) 120 (e) 150

10. If $5 @ 6 = 61$ and $8 @ 10 = 164$, then $7 @ 9 = ?$

- (a) 125 (b) 63 (c) 130 (d) 32 (e) 95

Answer & Explanations

1. Ans (c) 33. The given expression $9 \div 18 \times 15 + 3 - 6 \times 12$. By converting the symbols according to the given definitions, we get $9 - 18 + 15 \div 3 \times 6 + 12$ solving this by BODMAS rule, we get the value as 33.

2. Ans (b) 552. Given $a \$ b = a \cdot b \cdot -ab - ab \rightarrow 3 \$ 8 = 3 \cdot 8 \cdot - 3 \times 8 = 9 \times 64 - 24 = 576 - 24 = 552$

3. Ans (c) 195. $6 \emptyset 5 = 6 \cdot + 5 \cdot - 6 - 5 = 36 + 25 - 6 - 5 = 50$ ($6 \emptyset 5 ? 5 = 50 ? 5 = 50 \times 5 - 50 - 5 = 195$)

4. Ans (a) 945. $4 \circ + 5 \circ = 64 + 125 = 189 \Rightarrow 4 \circ 5, 10 \circ + 8 \circ = 1000 + 512 = 1512 \Rightarrow 10 \circ 8$

Similarly, $6 \circ 9 = 6^3 + 9^3 = 216 + 729 = 945$

5. Ans (a) $a > b > c$. $a > b$ means $a < b$, $c \$ d$ means $c > b$, $b < c$, $c \leq d$ means $c = d$ therefore, $a < b < c = d$. So $a > b > c$ is true $\Rightarrow a < b < c \rightarrow$ is true

6. Ans (b) 53. $24 - 36 \div 12 + 8 \times 4 = 24 - 3 + 32 = 53$.

7. Ans (e) 5. $15 \div 3 + 24 - 12 \times 2, 5 + 24 - 24 = 5$

8. Ans (b) 82. $28 \times 3 - 4 + 12 \div 6, 84 - 4 + 2$ or $84 + 2 - 4 = 86 - 4 = 82$

9. Ans (a) 32. $10 \div 2 \times 5 + 3 \times 4 \div 2 + 1, 5 \times 5 + 3 \times 4 \div 2 + 1, 5 \times 5 + 3 \times 2 + 1, 25 + 6 + 1 = 32$

10. Ans (c) 130. $5 \times 5 + 6 \times 6 = 25 + 36 = 61, 8 \times 8 + 10 \times 10 = 64 + 100 = 164$ so, $7 \times 7 + 9 \times 9 = 49 + 81 = 130$