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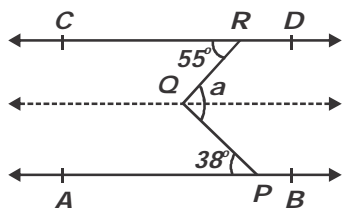
Solutions for Sample Questions

class : 9

Mental Ability

1. (B) $16x^2 - 72xy + 81y^2 - 12x + 27y$
 $= (4x)^2 - 2(4x)(9y) + (9y)^2 - 3(4x - 9y)$
 $= (4x - 9y)^2 - 3(4x - 9y)$
 $= (4x - 9y)(4x - 9y - 3)$

2. (A) $CD \parallel AB$ (Given)



$$\angle a = 55^\circ + 38^\circ = 93^\circ$$

3. (B) Let $\angle BAC = x^\circ$,
 In $\triangle ADC$, $AD = DC$,
 $\therefore \angle ACD = x^\circ$
 $\therefore \angle BDC = x^\circ + x^\circ = 2x^\circ$
 In $\triangle BDC$, $DC = BC$,
 $\therefore \angle DBC = 2x^\circ$
 In $\triangle ABC$, $AB = AC$,
 $\therefore \angle ACB = 2x^\circ$

$$\text{Also } \angle BAC + \angle ABC + \angle ACB = 180^\circ$$

(angles of a triangle)

$$\Rightarrow x^\circ + 2x^\circ + 2x^\circ = 180^\circ$$

$$\Rightarrow x^\circ = 36^\circ$$

$$\therefore \angle BAC = 36^\circ$$

4. (A)
$$\begin{array}{r} 984 \\ +4p3 \\ \hline 13q7 \end{array}$$

$$\text{We get } 8 + p = q$$

Now if $13q7$ is divisible by 11 then

$$(7 + 3) - (1 + q) = 11k$$

where, $k = 0, 1, 2, \dots$

$$10 - (1 + q) = 0$$

$$\Rightarrow q = 9$$

here $k = 0$ is the only possible value because if $k = 1$ then q must be either -2 or 20 .

but neither -2 nor 20 is possible because q is a single positive digit i.e., $q \in \{1, 2, 3, 4, 5, 6, 7, 8, 9, 0\}$

Thus, the value of $p + q = 1 + 9 = 10$

$$\left[\begin{array}{l} \text{Since, } p = 9 - 8 \\ \text{Therefore, } p = 1 \end{array} \right]$$

5. (C) 5 persons \rightarrow 180 shawls \rightarrow 12 days

$$5 \text{ persons} \rightarrow \frac{180}{12} \text{ shawls} \rightarrow 1 \text{ day}$$

$$1 \text{ person} \rightarrow \frac{180}{12 \times 5} \text{ shawls} \rightarrow 1 \text{ day}$$

$$= 3 \text{ shawls}$$

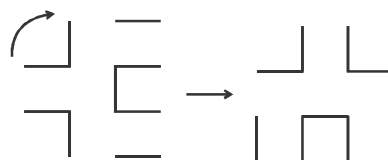
$$\therefore 6 \text{ persons} \rightarrow 6 \times 3 \text{ shawls} \rightarrow 1 \text{ day}$$

$$\Rightarrow 6 \text{ persons} \rightarrow 6 \times 3 \times 15 \text{ shawls} \rightarrow 15 \text{ days}$$

$$= 270 \text{ shawls}$$

Reasoning

6. (D) Figure 1 is rotated 90° to give figure 2.



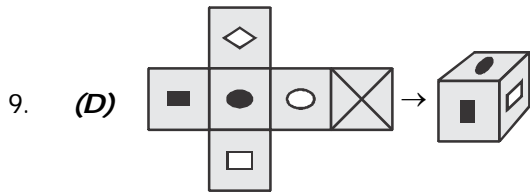
Similarly, figure 3 can be rotated to give figure D.

7. (B) $13 \times 4 = 52$; $17 \times 4 = 68$; $19 \times 4 = 76$

$$7 \times 6 = 42$$
; $11 \times 6 = 66$; $16 \times 6 = 96$

$$14 \times 9 = 126$$
; $21 \times 9 = 189$; $19 \times 9 = 171$

8. (B) Except option (B), all the figures are obtained by rotation.



10. (B) C and Q are sisters and A is the son of C. Hence, C is the mother of A or Z is the mother Q. Hence, Z is the maternal grandmother of A. P is the son of Z. Hence, **P is the maternal uncle of A.**

Computers

11. (B) The shortcut key to insert today's date in MS-Word 2010 is **shift + Alt + D.**
12. (C) Operating system files are stored in **hard disk.**

13. (B) Drop shadow, inner glow and bevel are the **Blending options** in Photoshop.
14. (B) **B2C e-commerce** is between business and consumers, which is a non-commercial commerce.
15. (C) Shortcut key to insert line break manually without breaking a paragraph in MS-Word is **Shift + Enter.**

English

16. (C) There are no black clothes in Rakesh's wardrobe as he has **melanophobia.**
17. (B) Insolent means **rude.**
18. (C) NLOECES - **ENCLOSE**
19. (C) **'Hierarchy'** is the correct spelling.
20. (B) The intense competition is making me **a bag of nerves.**

