

Solution for the day Aug 10 2018

6th Class

➤ **Mathematics**

Sol: In a proportion, we have :

Product of extremes = product of means

$$\therefore 51 \times X = 85 \times 57 \Rightarrow X = \frac{85 \times 57}{51} = 95$$

Hence, X = 95.

➤ **Physics:** Ans: (C)

Mass of alcohol (M) = 4 kg = 4000 g

Volume of alcohol (V) = 5 liters = 5000 ml = 5000 cm³

density of alcohol, (D) = g/cm³ = 0.8 g/cm³

density in kg/m³ = 1000 × 0.8 = 800 kg/m³

➤ **Chemistry:** Ans: (C)

➤ **Biology:** Ans: (B)

7th Class

➤ **Mathematics:** Ans: (A)

➤ **Physics:** Ans: (B)

➤ **Chemistry:** Ans: (D)

➤ **Biology:** Ans: (C)

8th class

➤ **Mathematics:**

$$\begin{aligned} \text{Sol: (A) } \sin^2 \theta + \cos^2 \theta + 2 + \cos^2 \theta + \sec^2 \theta + 2 \\ = 5 + 1 + \cot^2 \theta + 1 + \tan^2 \theta \\ = 7 + \tan^2 \theta + \cot^2 \theta \end{aligned}$$

Physics: A-q, B-s, C-p, D-t, E-r

➤ **Chemistry:** Ans : (D)

➤ **Biology:** (A)

9th Class

➤ **Mathematics:**

$$\text{Sol: (B) } \tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$$

$$\text{As } \{A+B = 45^\circ, \tan(A+B) = 1\}$$

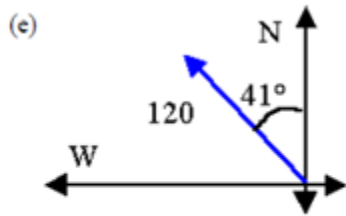
$$1 - \tan A \tan B = \tan A + \tan B$$

$$\tan A + \tan B + \tan A \tan B + 1 = 2$$

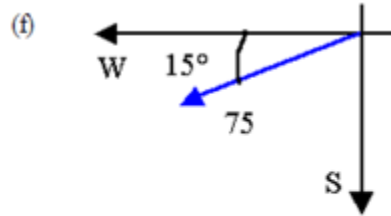
$$\Rightarrow (1 + \tan A)(1 + \tan B) = 2$$

➤ **Physics:**

Sol:



$$\begin{aligned} \mathbf{E} &= i[-120\sin(41^\circ)] + j[+120\cos(41^\circ)] \\ &= i[-78.7271] + j[90.5651] \end{aligned}$$



$$\begin{aligned} \mathbf{F} &= i[-75\cos(15^\circ)] + j[-75\sin(15^\circ)] \\ &= -i[72.4444] - j[19.4114] \end{aligned}$$

➤ **Chemistry:** Ans : (C)

➤ **Biology:** Ans: (D)

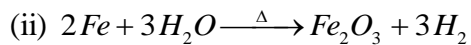
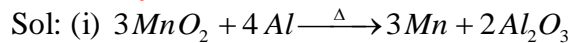
10th class

➤ **Mathematics:**

$$\begin{aligned} \text{Sol: (D)} \quad \frac{\cos 11^\circ + \sin 11^\circ}{\cos 11^\circ - \sin 11^\circ} &= \frac{1 + \tan 11^\circ}{1 - \tan 11^\circ} \\ &= \tan\left(\frac{\pi}{4} + 11^\circ\right) = \tan 56^\circ \end{aligned}$$

➤ **Physics:** Ans : (D)

➤ **Chemistry:**



➤ **Biology:** Ans: (D)

➤ **Reasoning :**

Ans : (C) The number '5' is common in words TODAY and WROTE, and so it is clear that O and T are common letters but T cannot be correct option because it is common in all the four words and so option (C) is correct answer.