

Solution of the day-2 / Sep-3, 2018

6th Class

➤ Mathematics:

Sol. Ratio of values = $5:\frac{6}{2}:\frac{8}{4}=5:3:2$ Divide Rs. 420 in the ratio 5 : 3 : 2

$$1^{\text{st}} \text{ part} = \text{Rs.} \left(420 \times \frac{5}{10} \right) = \text{Rs.} 210 \quad 2^{\text{nd}} \text{ part} = \text{Rs.} \left(420 \times \frac{3}{10} \right) = \text{Rs.} 126$$

$$3^{\text{rd}} \text{ part} = \text{Rs.} \left(420 \times \frac{2}{10} \right) = \text{Rs.} 84 \quad \therefore \text{Number of one-rupee coins} = 210$$

$$\text{Number of 50 paise coins} = (126 \times 2) = 252$$

$$\text{Number of 25 paise coins} = (84 \times 4) = 336$$

➤ **Physics:** Ans: (D)

➤ **Chemistry:** Ans: (A)

➤ **Biology:** Ans: (A)

7th Class

➤ Mathematics:

$$\text{Sol: } 7x - 3y + 2z$$

$$2x - 3y + 5z$$

$$\underline{- \quad + \quad -}$$

$$5x - 3z \quad \text{should be added}$$

➤ **Physics:** Ans: (C)

➤ **Chemistry:** Ans: (D)

➤ **Biology:** Ans: (B)

8th class

➤ Mathematics:

➤

$$\text{Sol: } \sec \theta + \tan \theta = \frac{1}{\cos \theta} + \frac{\sin \theta}{\cos \theta} = \frac{1 + \sin \theta}{\cos \theta} = \frac{1 + \sin \theta}{\sqrt{1 - \sin^2 \theta}} = \frac{1 + \sin \theta}{\sqrt{1 - \sin \theta}} = \sqrt{\frac{1 + \frac{a}{b}}{1 - \frac{a}{b}}} = \sqrt{\frac{b + a}{b - a}}$$

➤ **Physics:**

Sol : Total distance travelled = $2 \times 10 \times 5 = 100\text{m}$.

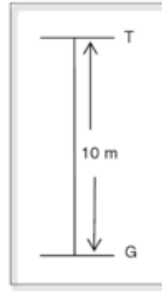
Time taken = 7 : 10 – 7:00a.m. = 10 minutes = $10 \times 60\text{s} = 600\text{s}$

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$$

$$= \frac{100}{600} = \frac{1}{6} \text{ms}^{-1} = 0.166\text{ms}^{-1}$$

Total displacement = zero

∴ Average velocity = zero



➤ **Chemistry:** Ans: (B)

➤ **Biology:** Ans: (D)

9th Class

➤ **Mathematics:**

$$\text{Sol: (A) } G.E = 2 \left[(\sin^2 x + \cos^2 x)^3 - 3 \sin^2 x \cos^2 (\sin^2 x) + \cos^2 x \right]$$

$$- 3 \left[(\sin^2 x + \cos^2 x)^2 - 2 \sin^2 x \cos^2 x \right] + 1 = 2(1 - 3 \sin^2 x \cos^2 x) - 3(1 - 2 \sin^2 x \cos^2 x) + 1 = 0$$

➤ **Physics:**

Sol: Yes.

➤ **Chemistry:** Ans: (D)

➤ **Biology:** Ans: (D)

10th class

➤ Mathematics:

$$\text{Sol: Given expression} = \frac{2 \sin A - 3 \cos A}{2 \sin A + 3 \cos A}$$

$$\text{Dividing by } \cos A, \text{ we get } \frac{\frac{2 \sin A}{\cos A} - \frac{3 \cos A}{\cos A}}{\frac{2 \sin A}{\cos A} + \frac{3 \cos A}{\cos A}} = \frac{2 \tan A - 3}{2 \tan A + 3}$$

$$\text{Putting the value of } \tan A, \text{ we get } = \frac{2\left(\frac{4}{3}\right) - 3}{2\left(\frac{4}{3}\right) + 3} = \frac{\frac{8}{3} - 3}{\frac{8}{3} + 3} = \frac{\frac{-1}{3}}{\frac{17}{3}} = \frac{-1}{17}$$

➤ **Physics:** Ans: (D)

➤ **Chemistry:** Ans: (C)

➤ **Biology:** Ans: (B)

➤ **Reasoning :** Ans: (C)