

Solution of the day
Aug 18, 2018

6th Class

- **Mathematics:** Ans : (B)
- **Physics:** Ans: (B)
- **Chemistry:** Ans: (A)
- **Biology:** Ans: (A)

7th Class

- **Mathematics:** Ans: (B)
- **Physics:**

Sol:

Express “G” in terms of F, r, m_1 and m_2 . If C.G.S unit of F, r and m are dynes, cm and g respectively then on substituting these values, is it possible to obtain C.G.S. unit of ‘G’?

If S.I. units of F, r and m are N, m and kg, respectively then on substituting these values, is it possible to obtain S.I. unit of ‘G’?

- **Chemistry:** Ans: (B)
- **Biology:** Ans: (D)

8th Class

- **Mathematics:** Ans: (C)
- **Physics:** Sol: (C)
- **Chemistry:** Ans: (D)
- **Biology:** Ans: (A)

9th Class

➤ Mathematics:

Sol: (B) $\sin A + \cos A = \frac{5}{4}$

$$\Rightarrow (\sin A + \cos A)^2 = \frac{25}{16} \Rightarrow 1 + \sin 2A = \frac{25}{16} \Rightarrow \sin 2A = \frac{25}{16} - 1 = \frac{9}{16}$$

➤ Physics:

Sol: Particle's velocity will be along the line AB i.e. along \overline{AB} . So it means we have to find a vector whose magnitude is 50 units and direction is along \overline{AB} .

Required velocity vector is given by,

$$\vec{v} = \frac{7\hat{i} + 24\hat{j}}{25} \times 50 = (14\hat{i} + 48\hat{j}) \text{ m/s}$$

➤ Chemistry: (D)

➤ Biology: Ans: (A)

10th Class

➤ Mathematics:

Sol: (A) The given expression

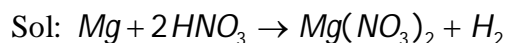
$$\begin{aligned} &= \frac{\sqrt{3}}{\sin 20^\circ} - \frac{1}{\cos 20^\circ} = \frac{\sqrt{3} \cos 20^\circ - \sin 20^\circ}{\sin 20^\circ \cos 20^\circ} = \frac{2 \left(\frac{\sqrt{3}}{2} \cos 20^\circ - \frac{1}{2} \sin 20^\circ \right)}{\sin 20^\circ \cos 20^\circ} \\ &= \frac{2 \sin(60^\circ - 20^\circ)}{\sin 20^\circ \cos 20^\circ} = \frac{2 \sin 40^\circ}{\sin 20^\circ \cos 20^\circ} \\ &= \frac{4 \sin 40^\circ}{2 \sin 20^\circ \cos 20^\circ} = \frac{4 \sin 40^\circ}{\sin 40^\circ} = 4 \end{aligned}$$

➤ Physics: Ans:

$$\Delta U = mgh = 10 \times 10 \times 10 = 1000 \text{ J}$$

$$= \frac{1000}{4.186} \text{ cal}$$

➤ Chemistry:



➤ Biology: Ans: (C)

Reasoning:

Ans: (D)