

Day-7: 4-08-18

Key/ Solutions

Class 6th

Mathematics:

$$\text{Sol: } \frac{x}{y} = \frac{3}{4} \Rightarrow \frac{4x + 5y}{5x - 2y} = \frac{4\left(\frac{x}{y}\right) + 5}{5\left(\frac{x}{y}\right) - 2} = \frac{32}{7}$$

Physics: Ans : (A)

Solution : The number of complete squares = 3

The number of incomplete squares = 9

The area of one rupee coin = $3 + (9 \times \frac{1}{2})$

$$= 3 + 4.5 = 7.5 \text{ mm}^2$$

Chemistry:

Ans : (A)

Biology:

Ans : (B)

Class 7th

Mathematics:

$$\text{Sol: } x^2 - (a^2 - 4a + 4)$$

$$x^2 - (a - 2)^2$$

$$(x + a - 2)(x - a - 2)$$

$$(x + a - 2)(x - a + 2)$$

Physics: Ans : (A)

Sol : If the two forces act in same direction their resultant is given by

$$\begin{aligned} R &= F_1 + F_2 = (36 \pm 0.3) \text{ N} + (23 \pm 0.5) \text{ N} = [(36 + 23) \pm (0.3 + 0.5)] \text{ N} \\ &= (59 \pm 0.8) \text{ N} \end{aligned}$$

If the two forces act in opposite direction

$$\begin{aligned} R &= F_1 - F_2 \\ &= (36 \pm 0.3) \text{ N} - (23 \pm 0.5) \text{ N} = [(36 - 23) \pm (0.3 + 0.5)] \text{ N} = (13 \pm 0.8) \text{ N} \end{aligned}$$

Chemistry:

Ans: A - F, B-g, C-d, D-h, E-b, F-I, G-a, H-j, I-e, J-c

Biology:

Ans : (A)

Class 8th

Mathematics:

Sol : $\cos \theta = \frac{12}{13}, \sin \theta = \frac{5}{13} = \cos \theta + \sin \theta = \frac{12}{13} + \frac{5}{13} = \frac{17}{13}$

Physics:

Ans : (C)

Chemistry:

Ans : (B)

Biology:

Ans : (C)

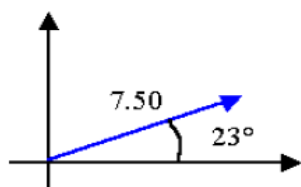
Class 9th

Mathematics:

Sol : $\tan 80^\circ = \tan(90^\circ - 10^\circ) = \cot 10^\circ$

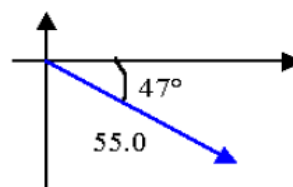
Physics:

(a)



$$\begin{aligned} \mathbf{A} &= i[+7.5\cos(23^\circ)] + j[+7.5\sin(23^\circ)] \\ &= i[6.9038] + j[2.9305] \end{aligned}$$

(b)



$$\begin{aligned} \mathbf{B} &= i[+55\cos(47^\circ)] + j[-55\sin(47^\circ)] \\ &= i[35.5099] - j[40.2245] \end{aligned}$$

Chemistry:

Ans : (B)

Biology:

Ans : (D)

Class 10th

Mathematics:

Sol : $\alpha + \beta = 180^\circ = \cos^2 \alpha + (\sin(180^\circ - \alpha))^2$
 $\cos^2 \alpha + \sin^2 \alpha = 1$

Physics: Land cools faster than water. Because specific heat capacity of water is nearly five times than that of land.

Chemistry:

Sol : Metal X is lead.

Name of metal carbonate = Lead carbonate (PbCO_3)



Biology:

Ans : (A)

Reasoning : Ans : (A) EDRIRL