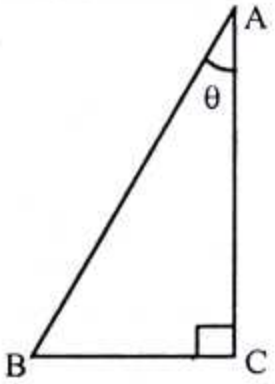
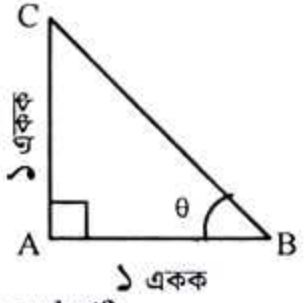
Chapter-9: Trigonometric Ratio



211. In the figure COSθ = what?

ⓐ $\frac{AC}{AB}$ ⓑ $\frac{BC}{AB}$ ⓒ $\frac{AB}{BC}$ ⓓ $\frac{AB}{AC}$

212.



cosθ = what?

ⓐ 1 ⓑ $\frac{1}{\sqrt{2}}$ ⓒ $\sqrt{2}$ ⓓ 2 **ⓑ**

213. Which one is correct for the mutual relation of geometric ratios of acute angle?

ⓐ $\cot\theta = \frac{\sin\theta}{\cos\theta}$ ⓑ $\sin\theta = \frac{1}{\sec\theta}$

ⓒ $\tan\theta = \frac{\sin\theta}{\cos\theta}$ ⓓ $\cot\theta = \frac{1}{\operatorname{cosec}\theta}$ **ⓒ**

214. If $\tan\theta = \frac{3}{4}$ then $\cos^2\theta$ = what?

ⓐ $\frac{16}{9}$ ⓑ $\frac{25}{16}$ ⓒ $\frac{16}{25}$ ⓓ $\frac{9}{16}$ **ⓒ**

215. Which one of the following law is correct?

ⓐ $\tan^2\theta = 1 - \sec^2\theta$

ⓑ $\operatorname{cosec}^2\theta - \tan^2\theta = 1$

ⓒ $\sin^2\theta - \cos^2\theta = 1$

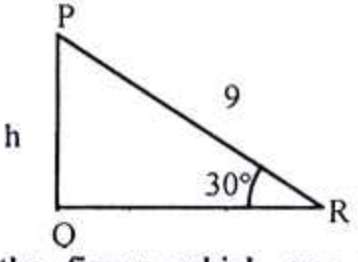
ⓓ $\frac{1}{\operatorname{cosec}^2\theta} + \frac{1}{\sec^2\theta} = 1$ **ⓓ**

216. If $\operatorname{cosec}\theta + \cot\theta = \frac{5}{6}$ then $\operatorname{cosec}\theta - \cot\theta$ = what?

ⓐ $\frac{1}{6}$ ⓑ $\frac{5}{6}$ ⓒ 1 ⓓ $\frac{6}{5}$ **ⓓ**

217. If $\sec\theta + \tan\theta = \frac{5}{2}$ then $\sec\theta - \tan\theta$ = which?

ⓐ $\frac{5}{2}$ ⓑ $\frac{2}{5}$ ⓒ $\frac{5}{3}$ ⓓ $\frac{3}{5}$ **ⓑ**



218. In the figure which one of the following value for h?

ⓐ 4.5 cm ⓑ 6.3 cm

ⓒ 7.8 cm ⓓ 9.5 cm **ⓐ**

219. $\sec^2 30° - \operatorname{cosec}^2 90°$ = which value?

ⓐ $\frac{4}{3}$ ⓑ $\frac{2}{\sqrt{3}}$ ⓒ $\frac{1}{2}$ ⓓ $\frac{1}{3}$ **ⓓ**

220. If $\cot(90° - \theta) = \frac{4}{3}$, then which one value is cosθ ?

ⓐ $\frac{3}{5}$ ⓑ $\frac{3}{4}$ ⓒ $\frac{4}{3}$ ⓓ $\frac{5}{3}$ **ⓐ**

221. If $\cos\theta = \frac{1}{2}$, then $\tan\theta$ = which value?

ⓐ 2 ⓑ $\sqrt{3}$ ⓒ $\frac{\sqrt{3}}{2}$ ⓓ $\frac{1}{2}$ **ⓑ**

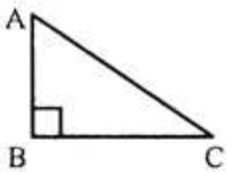
222. For trigonometric relations—

i. $\cos^2\theta = 1 - \sin^2\theta$
ii. $\sec^2\theta - \tan^2\theta = 1$
iii. $\text{cosec}^2\theta = 1 - \cot^2\theta$

Which one of the following is correct? **ⓐ**

ⓐ i & ii ⓑ i & iii
ⓒ ii & iii ⓓ i, ii & iii **ⓐ**

223.



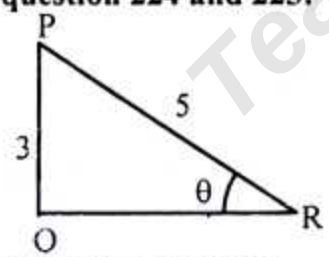
In the figure, if 2AB = BC, then—

i. $\angle BAC = 60°$
ii. $\angle BAC = \angle ACB = 45°$
iii. $\angle ACB = 30°$

Which one of the following is correct?

ⓐ i, ii ⓑ i, iii
ⓒ ii, iii ⓓ i, ii & iii **ⓑ**

On the basis of the following information answer the question 224 and 225:



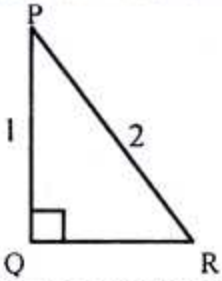
224. What is the value of $\cos\theta$?

ⓐ $\frac{3}{5}$ ⓑ $\frac{3}{4}$ ⓒ $\frac{4}{5}$ ⓓ $\frac{5}{4}$ **ⓒ**

225. Which one is the following value of $\frac{\tan^2\theta + 1}{\sin^2\theta - 1}$?

ⓐ $\frac{-35}{8}$ ⓑ -2.44 ⓒ -1 ⓓ 1.56 **ⓑ**

On the basis of the following information answer the question 226 and 227:



226. What is the correct value of $\angle R$?

ⓐ 30° ⓑ 45° ⓒ 60° ⓓ 90° **ⓒ**

227. In ΔPQR—

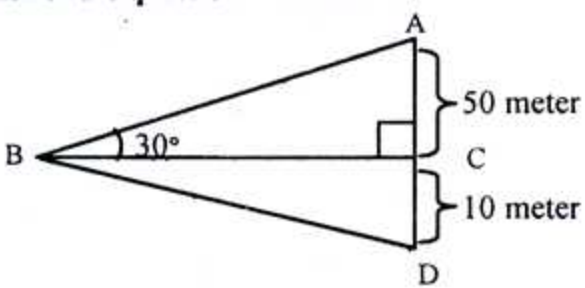
i. $\sec P = \text{cosec} R$ ii. $\cos P + \sec P = \frac{5}{2}$

iii. $\tan R = \frac{1}{\sqrt{3}}$

Which one of the following is correct?

ⓐ i & ii ⓑ i & iii
ⓒ ii & iii ⓓ i, ii & iii **ⓓ**

On the basis of the following information answer the question 228 and 229:



228. AB = ?

ⓐ 25 ⓑ $25\sqrt{3}$
ⓒ 100 ⓓ $100\sqrt{3}$ **ⓒ**

229. BD = ?

ⓐ 76.60 (Approx)
ⓑ 86.02 (Approx)
ⓒ 87.18 (Approx)
ⓓ 186.60 (Approx) **ⓒ**