

TRIGONOMETRY

Set 4 (Q.151 – Q.200)

151. The value of $\sin 30^\circ$ is:

- (a) 1 (b) 0 (c) $1/2$ (d) $\sqrt{3}/2$

152. The value of $\cos 60^\circ$ is:

- (a) $1/2$ (b) $\sqrt{3}/2$ (c) 0 (d) 1

153. The value of $\tan 45^\circ$ is:

- (a) 0 (b) 1 (c) ∞ (d) $\sqrt{3}$

154. The value of $\sec 0^\circ$ is:

- (a) 0 (b) 1 (c) ∞ (d) -1

155. The value of $\cot 90^\circ$ is:

- (a) 0 (b) 1 (c) ∞ (d) -1

156. $\sin^2 45^\circ + \cos^2 45^\circ = ?$

- (a) 0 (b) 1 (c) 2 (d) $1/2$

157. $\tan^2 \theta + 1 = ?$

- (a) $\sec^2 \theta$ (b) $\cos^2 \theta$ (c) $\csc^2 \theta$ (d) $\cot^2 \theta$

158. $1 + \cot^2 \theta = ?$

- (a) $\sec^2 \theta$ (b) $\csc^2 \theta$ (c) $\sin^2 \theta$ (d) $\cos^2 \theta$

159. The value of $\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ = ?$

- (a) $\sin 90^\circ$ (b) $\cos 90^\circ$ (c) 0 (d) 1

160. The value of $\cos^2 30^\circ + \sin^2 30^\circ = ?$

- (a) 1 (b) 0 (c) $1/2$ (d) 2

161. $\sin(90^\circ - \theta) = ?$

- (a) $\cos \theta$ (b) $\sin \theta$ (c) $\tan \theta$ (d) $\cot \theta$

162. $\cos(90^\circ - \theta) = ?$

- (a) $\sin \theta$ (b) $\cos \theta$ (c) $-\cos \theta$ (d) $\cot \theta$

163. $\tan(90^\circ - \theta) = ?$

- (a) $\cot \theta$ (b) $\tan \theta$ (c) $-\tan \theta$ (d) $\cos \theta$

164. If θ lies in 2nd quadrant, $\sin \theta$ is:

- (a) Positive (b) Negative (c) 0 (d) Undefined

165. If θ lies in 3rd quadrant, $\cos \theta$ is:

- (a) Positive (b) Negative (c) 0 (d) Undefined

166. If θ lies in 4th quadrant, $\tan \theta$ is:

- (a) Positive (b) Negative (c) 0 (d) Undefined

167. Which identity is correct?

- (a) $1 + \tan^2 \theta = \sec^2 \theta$
(b) $1 + \cot^2 \theta = \sec^2 \theta$
(c) $\sin^2 \theta - \cos^2 \theta = 1$
(d) $\sec^2 \theta - \tan^2 \theta = 0$

168. $\cos^2 \theta - \sin^2 \theta = ?$

- (a) $\cos 2\theta$ (b) $\sin 2\theta$ (c) $\tan 2\theta$ (d) $\cot 2\theta$

169. $2 \sin \theta \cos \theta = ?$

- (a) $\cos 2\theta$ (b) $\sin 2\theta$ (c) $\tan 2\theta$ (d) $\cot 2\theta$

170. $\sin^2 \theta - \cos^2 \theta = ?$

- (a) $-\cos 2\theta$ (b) $\sin 2\theta$ (c) $\tan 2\theta$ (d) $\cot 2\theta$

171. If $\sin \theta = 0$, then $\theta = ?$

- (a) 0° (b) 90° (c) 180° (d) (a) and (c) both

172. If $\cos \theta = 0$, then $\theta = ?$

- (a) 0° (b) 90° (c) 180° (d) (b) and (d)

173. If $\tan \theta = 0$, then $\theta = ?$

- (a) 0° (b) 90° (c) 180° (d) (a) and (c) both

174. $\sin^2 60^\circ + \cos^2 60^\circ = ?$

- (a) 1 (b) 0 (c) $3/4$ (d) 2

175. $\tan 30^\circ = ?$

- (a) $1/\sqrt{3}$ (b) $\sqrt{3}$ (c) 1 (d) 0

176. $\sec 60^\circ = ?$

- (a) 2 (b) $1/2$ (c) $\sqrt{3}/2$ (d) -2

177. $\csc 30^\circ = ?$

- (a) 2 (b) $1/2$ (c) $\sqrt{3}/2$ (d) -2

178. $\cos^2 45^\circ + \sin^2 45^\circ = ?$

- (a) 1 (b) 0 (c) $1/2$ (d) 2

179. If $\sin \theta = 1$, then $\theta = ?$

- (a) 0° (b) 90° (c) 180° (d) 270°

180. If $\cos \theta = -1$, then $\theta = ?$

- (a) 90° (b) 180° (c) 0° (d) 270°

181. If $\tan \theta$ is positive in 1st quadrant, then in which other quadrant is $\tan \theta$ positive?

- (a) 2nd (b) 3rd (c) 4th (d) None

182. If $\cos \theta$ is negative, θ lies in:

- (a) 1st quadrant (b) 2nd or 3rd quadrant (c) 4th quadrant (d) None

183. $\sin^2 \theta = 1 - \cos^2 \theta$ is:

- (a) Trigonometric identity (b) Equation (c) Formula (d) None

184. Which is NOT a correct identity?

- (a) $1 + \tan^2 \theta = \sec^2 \theta$
(b) $1 + \cot^2 \theta = \csc^2 \theta$

- (c) $\sin^2\theta + \cos^2\theta = 0$
(d) $\sec^2\theta - \tan^2\theta = 1$

185. $\sin(-\theta) = ?$

- (a) $-\sin \theta$ (b) $\sin \theta$ (c) $\cos \theta$ (d) $-\cos \theta$

186. $\cos(-\theta) = ?$

- (a) $\cos \theta$ (b) $-\cos \theta$ (c) $-\sin \theta$ (d) $\tan \theta$

187. $\tan(-\theta) = ?$

- (a) $-\tan \theta$ (b) $\tan \theta$ (c) $-\cot \theta$ (d) $\cot \theta$

188. If $\sin A = 3/5$, find $\cos(90^\circ - A)$.

- (a) $3/5$ (b) $4/5$ (c) $5/3$ (d) 1

189. If $\cos A = 12/13$, find $\sin(90^\circ - A)$.

- (a) $12/13$ (b) $5/13$ (c) $13/12$ (d) 1

190. If $\sin \theta = \cos \theta$, then $\theta = ?$

- (a) 30° (b) 45° (c) 60° (d) 90°

191. If $\tan \theta = 1$, then $\theta = ?$

- (a) 30° (b) 45° (c) 60° (d) 0°

192. If $\cot \theta = 1$, then $\theta = ?$

- (a) 30° (b) 45° (c) 60° (d) 0°

193. If a tower casts a shadow equal to its height, the angle of elevation of the Sun is:

- (a) 30° (b) 45° (c) 60° (d) 90°

194. A ladder of length 10 m rests against a wall. Its foot is 6 m away from the wall. The height at which it touches the wall is:

- (a) 6 m (b) 8 m (c) 10 m (d) 12 m

195. A kite is flying at a height of 60 m. The string makes an angle of 60° with the ground. The length of string is:

- (a) 60 m (b) 90 m (c) 120 m (d) $30\sqrt{3}$ m

- 196.** A man is 30 m away from a tower. The angle of elevation of the top of the tower is 45° . The height of tower is:
(a) 30 m (b) 15 m (c) 45 m (d) 60 m
- 197.** A building 40 m high casts a shadow $40\sqrt{3}$ m long. The angle of elevation of the Sun is:
(a) 30° (b) 45° (c) 60° (d) 90°
- 198.** A man standing at a point sees the top of a tower at angle of elevation 30° and its foot at angle of depression 60° . The height of tower is:
(a) Same as distance of man from tower | (b) Half of distance | (c) Double of distance | (d) None
- 199.** If $\sin \theta = 0.6$, $\cos \theta = 0.8$, then $\tan \theta = ?$
(a) $3/4$ (b) $4/3$ (c) $5/4$ (d) 1
- 200.** If $\cos \theta = 0.6$, $\sin \theta = 0.8$, then $\cos^2\theta + \sin^2\theta = ?$
(a) 0.6 (b) 0.8 (c) 1 (d) 2
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Answer Key – Set 4

151.(c), 152.(a), 153.(b), 154.(b), 155.(a), 156.(b), 157.(a), 158.(b), 159.(a), 160.(a), 161.(a), 162.(a), 163.(a), 164.(a), 165.(b), 166.(b), 167.(a), 168.(a), 169.(b), 170.(a), 171.(d), 172.(d), 173.(d), 174.(a), 175.(a), 176.(a), 177.(a), 178.(a), 179.(b), 180.(b), 181.(b), 182.(b), 183.(a), 184.(c), 185.(a), 186.(a), 187.(a), 188.(b), 189.(b), 190.(b), 191.(b), 192.(b), 193.(b), 194.(b), 195.(c), 196.(a), 197.(c), 198.(a), 199.(a), 200.(c).