

**Answer Key**

**TRIGONOMETRIC FUNCTIONS  
[CM23M110301]**

1. (i)  $22^{\circ}30'$  (ii)  $324^{\circ}$  (iii)  $-(114^{\circ}32'44'')$  (iv)  $343^{\circ}38'11''$  (v)  $57^{\circ}16'21''$
2. (i)  $\left(\frac{17\pi}{9}\right)^{\circ}$  (ii)  $-\left(\frac{5\pi}{24}\right)^{\circ}$  (iii)  $\left(\frac{\pi}{32}\right)^{\circ}$  3.  $\frac{5\pi}{12}$  cm. 4.  $20^{\circ}, 60^{\circ}, 100^{\circ}$
5. 1.7 6.  $\frac{5\pi}{12}$  12.  $\sec\theta = \frac{k^2+1}{2k}, \tan\theta = \frac{k^2-1}{2k}$  &  $\sin\theta = \frac{k^2-1}{k^2+1}$ .
17.  $\cos\theta = -\frac{4}{5}, \tan\theta = \frac{3}{4}$  18. -1 19. (i) 2 (ii)  $\sqrt{3}$  (iii)  $-\sqrt{3}$
- (iv) 0 (v)  $\sqrt{3}$  (vi)  $\frac{\sqrt{3}}{2}$  (vii) 1 22. (i)  $-\frac{\sqrt{3}}{2}$  (ii) 0
- (iii)  $-\frac{1}{\sqrt{3}}$  (iv)  $\frac{1}{\sqrt{2}}$  (v)  $-\frac{\sqrt{3}}{2}$  (vi)  $-\frac{2}{\sqrt{3}}$  (vii) -1 (viii)  $-\frac{1}{2}$
24. (i)  $\frac{56}{65}$  (ii)  $-\frac{33}{65}$  25.  $-\frac{187}{84}$  26. (i)  $\frac{\sqrt{3}}{2}$  (ii)  $\frac{1}{2}$  29.  $\frac{x+y}{1-xy}, \frac{x-y}{1+xy}$
31.  $-\sqrt{3}, -\frac{1}{\sqrt{3}}$  46. (i)  $-\frac{1}{\sqrt{5}}, \frac{2}{\sqrt{5}}, \frac{24}{25}$  (ii)  $\frac{1}{\sqrt{6}}, \sqrt{\frac{5}{6}}, \sqrt{5}$ .

