

REPONSES

1. a) 6° c) 27° e) 240° g) 315° i) 7°
 b) 72° d) 12° f) 330° h) 50° j) 22°

2. a) $\frac{7\pi}{6}$ c) $\frac{13\pi}{6}$ e) $\frac{4\pi}{3}$ g) $\frac{\pi}{15}$ i) $\frac{7\pi}{18}$
 b) $\frac{5\pi}{3}$ d) $\frac{3\pi}{4}$ f) $\frac{5\pi}{2}$ h) $\frac{\pi}{5}$ j) $\frac{\pi}{12}$

3. a) $\cos \alpha = -\frac{3}{5}$ $\tan \alpha = -\frac{4}{3}$ $\cot \alpha = -\frac{3}{4}$
 b) $\sin \alpha = \frac{5}{13}$ $\tan \alpha = \frac{5}{12}$ $\cot \alpha = \frac{12}{5}$
 c) $\cos \alpha = \frac{3\sqrt{11}}{10}$ $\tan \alpha = -\frac{\sqrt{11}}{33}$ $\cot \alpha = -3\sqrt{11}$
 d) $\sin \alpha = \frac{\sqrt{5}}{3}$ $\tan \alpha = -\frac{\sqrt{5}}{2}$ $\cot \alpha = -\frac{2\sqrt{5}}{5}$
 e) $\cos \alpha = -\frac{\sqrt{15}}{4}$ $\tan \alpha = \frac{\sqrt{15}}{15}$ $\cot \alpha = \sqrt{15}$
 f) $\sin \alpha = -\frac{2\sqrt{6}}{5}$ $\tan \alpha = -2\sqrt{6}$ $\cot \alpha = -\frac{\sqrt{6}}{12}$
 g) $\cot \alpha = \frac{1}{5}$ $\cos \alpha = -\frac{\sqrt{26}}{26}$ $\sin \alpha = -\frac{5\sqrt{26}}{26}$
 h) $\tan \alpha = -\frac{1}{10}$ $\cos \alpha = -\frac{10\sqrt{101}}{101}$ $\sin \alpha = \frac{\sqrt{101}}{101}$
 i) $\tan \alpha = 2$ $\cos \alpha = -\frac{\sqrt{5}}{5}$ $\sin \alpha = -\frac{2\sqrt{5}}{5}$
 j) $\cot \alpha = -3$ $\cos \alpha = \frac{3\sqrt{10}}{10}$ $\sin \alpha = -\frac{\sqrt{10}}{10}$

4. a) $-\cos \alpha$ c) $-\cot \alpha$ e) $\cos \alpha$ g) $\cos \alpha$ i) $-\cot \alpha$
 b) $-\cos \alpha$ d) $-\cot \alpha$ f) $\cos \alpha$ h) $\cot \alpha$ j) $-\cos \alpha$

5. a) $\frac{\sin \alpha \cdot (-\sin \alpha)}{\cos \alpha \cdot \sin \alpha} = -\tan \alpha$ b) $\frac{\cot \alpha \cdot \cos \alpha}{\cot \alpha \cdot \cos \alpha} = 1$

6. a) $\cos(180^\circ + 60^\circ) = -\cos 60^\circ = -\frac{1}{2}$ f) $\cos(2\pi - \frac{\pi}{3}) = \cos \frac{\pi}{3} = \frac{1}{2}$
 b) $\tan(180^\circ - 30^\circ) = -\tan 30^\circ = -\frac{\sqrt{3}}{3}$ g) $\sin(2\pi - \frac{\pi}{6}) = -\sin \frac{\pi}{6} = -\frac{1}{2}$
 c) $\sin(360^\circ + 30^\circ) = \sin 30^\circ = \frac{1}{2}$ h) $-\tan \frac{\pi}{3} = -\sqrt{3}$
 d) $\cot(360^\circ + 120^\circ) = \cot 120^\circ$ i) $\cos(\pi - \frac{\pi}{3}) = -\cos \frac{\pi}{3} = -\frac{1}{2}$
 $= \cot(180^\circ - 60^\circ) = -\cot 60^\circ = -\frac{\sqrt{3}}{3}$ j) $\cot(\pi + \frac{\pi}{3}) = \cot \frac{\pi}{3} = \frac{\sqrt{3}}{3}$
 e) $\sin(360^\circ - 60^\circ) = -\sin 60^\circ$
 $= -\frac{\sqrt{3}}{2}$