

Worksheet 8.2

Solve for $0 \leq x < 360^\circ$

1. $\sin x = \frac{\sqrt{3}}{2}$

2. $\sin 3x = \frac{\sqrt{3}}{2}$

3. $\sin\left(\frac{x}{3}\right) = \frac{\sqrt{3}}{2}$

4. $\cos x = -\frac{1}{2}$

5. $\cos 3x = -\frac{1}{2}$

6. $\cos\left(\frac{1}{3}x\right) = -\frac{1}{2}$

Solve for $0 \leq x < 2\pi$

7. $\tan x = -1$

8. $\tan 2x = -1$

9. $\tan \frac{1}{2}x = -1$

Answers:

1. $60^\circ ; 120^\circ$

2. $20^\circ ; 40^\circ ; 140^\circ ; 160^\circ ; 260^\circ ; 280^\circ$

3. 180°

4. $120^\circ ; 240^\circ$

5. $40^\circ ; 80^\circ ; 160^\circ ; 200^\circ ; 280^\circ ; 320^\circ$

6. no solution

7. $\frac{3\pi}{4} ; \frac{7\pi}{4}$

8. $\frac{3\pi}{8} ; \frac{7\pi}{8} ; \frac{11\pi}{8} ; \frac{15\pi}{8}$

9. $\frac{3\pi}{2}$