

Self Check Exercises
(The Unit Circle)

1. What is the equation of the “unit circle”
2. Sketch the unit circle on the cartesian coordinate system.
3. Determine which of the following points are points on the unit circle:
 - a) $(0,1)$
 - b) $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$
 - c) $\left(\frac{1}{4}, -\frac{1}{2}\right)$
 - d) $\left(-\frac{1}{4}, \frac{\sqrt{15}}{4}\right)$
 - e) $\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$
 - f) $\left(\frac{\sqrt{5}}{3}, \frac{2}{3}\right)$
 - g) $\left(\frac{\sqrt{2}}{5}, \frac{1}{5}\right)$
 - h) $(1,1)$

4-20: For each of the following, find the point on the unit circle corresponding to each angle.

4. $\mathbf{a} = \frac{p}{2}$

5. $\mathbf{q} = 0$

6. $\mathbf{b} = p$

7. $\mathbf{q} = \frac{3p}{2}$

8. $\mathbf{a} = 2p$

9. $\mathbf{b} = \frac{p}{3}$

10. $\mathbf{q} = \frac{p}{4}$

11. $\mathbf{q} = \frac{p}{6}$

12. $\mathbf{a} = \frac{3p}{4}$

13. $\mathbf{q} = \frac{5p}{6}$

14. $\mathbf{b} = \frac{4p}{3}$

15. $\mathbf{q} = -\frac{p}{4}$