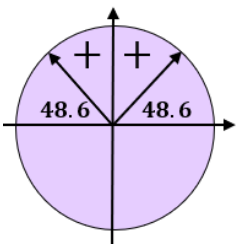
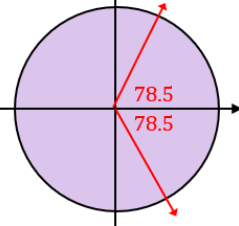
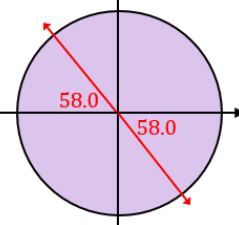
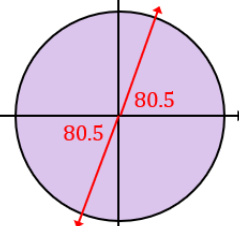
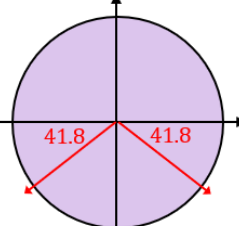
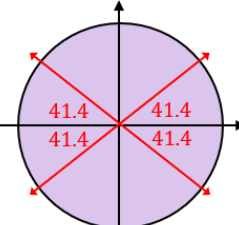
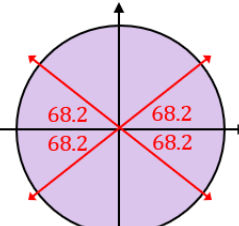


# Fill in the Blanks

# Solving Trigonometric Equations

| Question  | Rearranged Equation             | Acute Angle   | Unit Circle   | Solutions  |
|---|---------------------------------|---|---|--|
| Solve<br>$4 \sin \theta = 3$<br>for<br>$0^\circ \leq \theta < 360^\circ$        | $\sin \theta = \frac{3}{4}$     | $\theta = \sin^{-1}\left(\frac{3}{4}\right)$<br>$\theta = 48.6^\circ$ |    | $\theta = 48.6^\circ$<br>$\theta = 131.4^\circ$  |
| Solve<br>$5 \cos \theta = 1$<br>for<br>$0^\circ \leq \theta < 360^\circ$        | $\cos \theta = \frac{1}{5}$     | $\theta = \cos^{-1}\left(\frac{1}{5}\right)$<br>$\theta = 78.5^\circ$ |    | $\theta = 78.5^\circ$<br>$\theta = 281.5^\circ$  |
| Solve<br>$5 \tan \theta = -8$<br>for<br>$0^\circ \leq \theta < 360^\circ$       | $\tan \theta = -\frac{8}{5}$    | $\theta = \tan^{-1}\left(\frac{8}{5}\right)$<br>$\theta = 58.0^\circ$ |   | $\theta = 122.0^\circ$<br>$\theta = 302.0^\circ$   |
| Solve<br>$\tan \theta - 6 = 0$<br>for<br>$-180^\circ \leq \theta < 180^\circ$   | $\tan \theta = 6$               | $\theta = \tan^{-1}(6)$<br>$\theta = 80.5^\circ$                      |  | $\theta = 80.5^\circ$<br>$\theta = -99.5^\circ$  |
| Solve<br>$3 \sin \theta + 2 = 0$<br>for<br>$-180^\circ \leq \theta < 180^\circ$ | $\sin \theta = -\frac{2}{3}$    | $\theta = \sin^{-1}\left(\frac{2}{3}\right)$<br>$\theta = 41.8^\circ$ |  | $\theta = -41.8^\circ$<br>$\theta = -138.2^\circ$  |
| Solve<br>$16 \cos^2 \theta = 9$<br>for<br>$0^\circ \leq \theta < 360^\circ$     | $\cos \theta = \pm \frac{3}{4}$ | $\theta = \cos^{-1}\left(\frac{3}{4}\right)$<br>$\theta = 41.4^\circ$ |  | $\theta = 41.4^\circ$<br>$\theta = 138.6^\circ$<br>$\theta = 221.4^\circ$<br>$\theta = 318.6^\circ$  |
| Solve<br>$4 \tan^2 \theta = 25$<br>for<br>$-180^\circ \leq \theta < 180^\circ$  | $\tan \theta = \pm \frac{5}{2}$ | $\theta = \tan^{-1}\left(\frac{5}{2}\right)$<br>$\theta = 68.2^\circ$ |  | $\theta = 68.2^\circ$<br>$\theta = 111.8^\circ$<br>$\theta = -68.2^\circ$<br>$\theta = -111.8^\circ$ |