

### Stewart, Outline #7.3: Trigonometric Substitution

Outcome, you should be able to...	Show that you are able to do this.	How will you not forget what you have learned?
Recognize when it is appropriate to use trigonometric inverse substitution.	It is appropriate when it creates a perfect square inside a root.	x
State the appropriate substitution for the three types of roots.	$\sqrt{a^2 - x^2}, x = a \sin \theta, -\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$ $\sqrt{a^2 + x^2}, x = a \tan \theta, -\frac{\pi}{2} < \theta < \frac{\pi}{2}$ $\sqrt{x^2 - a^2}, x = a \sec \theta, \theta \leq \frac{\pi}{2} < \theta \leq \frac{3\pi}{2}$	x