

Show all work clearly and in order. Please box your answers.

1. Suppose $x = \sin(\theta)$ and $-\pi/2 \leq \theta \leq \pi/2$.

(a) Draw the corresponding right triangle:

(b) $\sin(\theta) =$

(c) $\cos(\theta) =$

(d) $\tan(\theta) =$

2. Suppose $x = 3 \sin(\theta)$ and $-\pi/2 \leq \theta \leq \pi/2$.

(a) Draw the corresponding right triangle:

(b) $\sin(\theta) =$

(c) $\cos(\theta) =$

(d) $\tan(\theta) =$

3. Suppose $x = 2 \tan(\theta)$ and $-\pi/2 < \theta < \pi/2$.

(a) Draw the corresponding right triangle:

(b) $\sin(\theta) =$

(c) $\cos(\theta) =$

(d) $\tan(\theta) =$

4. Suppose $x = 5 \sec(\theta)$ and $[0 \leq \theta < \pi/2 \text{ OR } \pi \leq \theta < 3\pi/2]$.

(a) Draw the corresponding right triangle:

(b) $\sin(\theta) =$

(c) $\cos(\theta) =$

(d) $\tan(\theta) =$

5. Complete the square for each of the following:

(a) $5 + 4x - x^2 =$

(b) $x^2 + x + 1 =$

(c) $x^2 + 2x =$

(d) $x^2 - 2x + 2 =$

(e) $x^2 - 4x + 8 =$