Hmwk: pg 281 #3ac, 4ac, 5, 6ac, 7-12

Trigonometric Ratios of Acute Angles

**Recall: SOH CAH TOA**

**🡪 used to determine side lengths and angles in *right triangles*.**

**θ**



**Adjacent**

**Opposite**

**Hypotenuse**

# **Example 1**

**Determine the side length x using SOH CAH TOA**

**a) b)**

**9 cm**

**x**

**θ = 30o**

**θ = 50o**

**x**

**12 cm**

## Example 2

**Determine the angle θ using SOH CAH TOA.**

**θ**

**θ**

**11 cm**

a) b)

**2 cm**

**8 cm**

**5 cm**

**Reciprocal trigonometric ratios**

**The reciprocal trigonometric ratios of the primary trigonometric ratios are defined as 1 divided by each of the primary trigonometric ratios:**

**cosecant --> **

**secant --> **

**cotangent --> **

**Example 3**

**Evaluate to the nearest hundredth.**

**a) sec(25o) b) cot(500) c) csc(30o)**

**Example 4**

**Solve for angle θ.**

**a) cot θ = 4.5 b) csc θ = 2.1 c) sec θ = 1.25**

**Example 5**

**Determine angle θ using a reciprocal trigonometric ratio.**

**13 cm**

**5 cm**

**12 cm**

**θ**