Chapter 5 Part 2 Review Questions – Solutions will be posted later.

Special Triangles – Draw the 2 special triangles and then state the trigonometric ratios for each angle.

Calculate the exact ratio:

1. $\sin 30 \times \tan 30$

2. $\cot 60 - \tan 30$

3. $\dfrac{\sec 45}{\tan 60} + \csc 30$

4. $\cos^2 45 + \sin^2 30$

Angles on a Graph

5. (-6,-10) lies on the terminal arm of an angle in standard position.

i) Draw a sketch of the angle.

ii) Determine the value of r.

iii) Determine the primary trigonometric ratios for angle θ.

iv) Calculate the value of related acute angle and the principal angle.

6. $\tan\theta = \frac{7}{4}$ lies in the third quadrant on a graph.

i) Determine the values of x,y, and r.

ii) Sketch angle θ in standard position.

iii) Determine the principal angle θ and the related acute angle β to the nearest degree.

7. Find both angles that satisfy the given ratios:

a) $\sin\theta = -0.9132$

b) $\tan\theta = 3.664$

c) $\sec\theta = -3.2218$

d) $\csc\theta = 12.2345$

Trigonometry Identities:

8. Prove:

a) $\cot\theta\sec\theta = \csc\theta$

b) $\cot^2\theta(1-\cos^2\theta) = \cos^2\theta$

c) $\tan\theta + \cot\theta = \sec\theta\csc\theta$

d) $\dfrac{1}{1+\sin^2\theta} + \dfrac{1}{1+\csc^2\theta} = 1$