

Week 7 Math 2550 Homework.

Question 1

$$\csc(4)$$

Question 2.

$$\cot(4)$$

Question 3.

$$\tan(4)$$

Question 4

$$\sin(x) = \frac{\sqrt{45}}{9} = \frac{\sqrt{65}}{9}$$

$$\sec(x) = -\frac{9}{4}$$

$$\cos(x) = \frac{-4}{9}$$

$$\cot x = \frac{-4}{\sqrt{65}} = \frac{-4\sqrt{65}}{65}$$

$$\tan(x) = \frac{-\sqrt{65}}{4}$$

$$\csc(x) = \frac{9}{\sqrt{65}} = \frac{9\sqrt{65}}{65}$$

Question 5.

$$\sin(\theta) = \frac{-\sqrt{8}}{3}$$

$$\csc(\theta) = \frac{-3}{\sqrt{8}} = -\frac{3\sqrt{8}}{8}$$

$$\cos(\theta) = \frac{1}{3}$$

$$\sec(\theta) = 3$$

$$\tan \theta = \frac{-\sqrt{8}}{1} = -\sqrt{8}$$

$$\cot \theta = \frac{-\sqrt{8}}{8}$$

Question 6.

$$\sin(x) = -\frac{4\sqrt{65}}{65}$$

$$\csc(x) = -\frac{\sqrt{65}}{4}$$

$$\cos(x) = -\frac{7\sqrt{65}}{65}$$

$$\sec(x) = -\frac{\sqrt{65}}{7}$$

$$\tan(x) = \frac{4}{7}$$

$$\cot(x) = \frac{7}{4}$$

Question 7

1

Question 8

$$\sec(x)$$

Question 9

$$\sin(x) \tan(x)$$

Question 10.

$$\tan(x)$$

Question 11

$$\sin^2(x) \tan^2(x)$$

Question 12.

$$= \frac{1}{\cos(x) + 4}$$

Question 13.

$$\cot(u)$$

Question 14

$$\frac{\cot^2(u)}{\cot^2(u)}$$

Question 15.

$$- \csc(u)$$

Question 16.

$$\sin(t)$$

Question 17

1st step $\cos^2 \beta$

2nd step $\cos^2 \beta$

Question 18

1st step $\frac{\cos(\theta)}{\sin(\theta)}$ OR $\cot(\theta)$

2nd step $\tan \theta$

Question 19.

1st step $\tan(x)$

2nd step 1

Question 20.

1st step $1 + \sin(\theta)$

2nd step $1 + 2 \sin(\theta)$

3rd step $\sin(\theta)$

4th step $1 + \sin \theta$

Question 21.

Quadratic

Question 22

(a) $\sqrt{3}$

(b) $\sqrt{3}$

Question 23

(a) 64

(b) 64

Question 24

$$x = \frac{\pi}{3} + 2\pi n, \frac{2}{3}\pi + 2\pi n.$$

Question 25.

$$x = \frac{2}{3}\pi + 2\pi n, \frac{4}{3}\pi + 2\pi n$$

Question 26.

$$x = \frac{7}{6}\pi + 2\pi n, \frac{11}{6}\pi + 2\pi n$$

Question 27

$$x = \frac{\pi}{3} + \pi n, \frac{2}{3}\pi + \pi n.$$

Question 28.

$$x = \frac{5}{6}\pi + \pi n, \frac{\pi}{6} + \pi n, \frac{\pi}{4} + \frac{\pi n}{2}$$