

# HW 76

1. a) v      d) iii  
b) iv      e) i  
c) vi      f) ii

2. opposite, adj & hypotenuse

5.  $\text{hyp}^2 = 8^2 + 6^2$   
 $\text{hyp} = 10$

$$\sin \theta = 6/10 = 3/5$$

$$\cos \theta = 8/10 = 4/5$$

$$\tan \theta = 6/8 = 3/4$$

$$\csc \theta = 5/3$$

$$\sec \theta = 5/4$$

$$\cot \theta = 4/3$$

6.  $13^2 = 5^2 + a^2$   
 $a = 12$

$$\sin \theta = 5/13$$

$$\cos \theta = 12/13$$

$$\tan \theta = 5/12$$

$$\csc \theta = 13/5$$

$$\sec \theta = 13/12$$

$$\cot \theta = 12/5$$

7.  $9^2 + a^2 = 41^2$   
 $a = 40$

$$\sin \theta = 9/41 \quad \csc \theta = 41/9$$

$$\cos \theta = 40/41 \quad \sec \theta = 41/40$$

$$\tan \theta = 9/40 \quad \cot \theta = 40/9$$



$$1^2 + a^2 = 5^2$$

$$a = 2\sqrt{6}$$

$$\cos \theta = \frac{2\sqrt{6}}{5}$$

$$\tan \theta = \frac{1}{2\sqrt{6}} = \frac{\sqrt{6}}{12}$$

$$\csc \theta = 5$$

$$\sec \theta = \frac{5}{2\sqrt{6}}$$

$$\cot \theta = 2\sqrt{6}$$



$$17^2 = x^2 + 7^2$$

$$x = 4\sqrt{15}$$

$$\sin \theta = \frac{4\sqrt{15}}{17} \quad \csc \theta = \frac{17}{4\sqrt{15}}$$

$$\cos \theta = \frac{7}{17}$$

$$\tan \theta = \frac{4\sqrt{15}}{7} \quad \cot \theta = \frac{7}{4\sqrt{15}}$$

19.



$$\sin \theta = \frac{1}{\sqrt{10}} = \frac{\sqrt{10}}{10}$$

$$\cos \theta = \frac{3}{\sqrt{10}}$$

$$\tan \theta = \frac{1}{3}$$

$$\csc \theta = \sqrt{10}$$

$$\sec \theta = \frac{\sqrt{10}}{3}$$

$$\cot \theta = 3$$



21.  $30^\circ, \pi/6, 1/2$

22. ~~60~~  $45^\circ, \pi/4, \sqrt{2}/2$

23.  $45^\circ, \pi/4, \sqrt{2}$

24.  $60^\circ, \pi/3, \sqrt{3}$

25.  $60^\circ, \pi/3$

26.  $45^\circ, \pi/4$

27.  $30^\circ, \pi/6, 2$

28.  $45^\circ, \pi/4, \sqrt{2}/2$

29.  $90^\circ, \pi/2$

30.  $30^\circ, \pi/6$