Name _____ Date _____
Mr. Schlansky Algebra II

Advanced Trig Ratios

1. If $\cos\theta = \frac{12}{13}$ and θ is in Quadrant I, find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

2. If $\sin\theta = -\frac{3}{5}$ and θ is in Quadrant III, find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

3. If $\tan\theta = \frac{24}{7}$ and θ is in Quadrant III, find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

4. If $\sin\theta = \frac{5}{8}$ and θ is in Quadrant II, find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

5. Angle θ is in standard position and $(3,4)$ is a point on the terminal side of θ. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

6. Angle θ is in standard position and $(4,-7)$ is a point on the terminal side of θ. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

7. Angle θ is in standard position and $(-5,-12)$ is a point on the terminal side of θ. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

8. Angle θ is in standard position and $(-2,3)$ is a point on the terminal side of θ. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

9. A circle centered at the origin has a radius of 10 units. The terminal side of an angle, θ, intercepts the circle in Quadrant I at point *C*. The *y*-coordinate of point *C* is 8. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

10. A circle centered at the origin has a radius of 4 units. The terminal side of an angle, θ, intercepts the circle in Quadrant II at point *P*. The *x*-coordinate of point *P* is 2. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

11. A circle centered at the origin has a radius of 6 units. The terminal side of an angle, θ, intercepts the circle in Quadrant VI at point *P*. The *x*-coordinate of point *P* is 2. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

12. A circle centered at the origin has a radius of 9 units. The terminal side of an angle, θ, intercepts the circle in Quadrant II at point *P*. The *x*-coordinate of point *P* is 7. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

13. The point $\left(\frac{3}{5},-\frac{4}{5}\right)$ lines on the unit circle. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$

14. The point $\left(x,-\frac{2}{3}\right)$ lines on the unit circle where $x>0$. Find:

a) $\cos\theta$ b) $\sin\theta$ c) $\tan\theta$

d) $\sec\theta$ e) $\csc\theta$ f) $\cot\theta$