3.3B Sine and Cosine Function Values

AP Precalculus   Name: _____

For each problem, an angle in standard position in the xy-plane is given in radians. A circle is centered at the origin with the given radius. What are the coordinates of the point of intersection of the terminal ray of the angle and the circle?

1. $\theta = \frac{\pi}{6}, r = 8$

2. $\theta = \frac{3\pi}{4}, r = 7$

3. $\theta = \frac{\pi}{3}, r = 12$

4. $\theta = \frac{5\pi}{3}, r = 3$

5. $\theta = \frac{11\pi}{6}, r = 5$

6. $\theta = \frac{2\pi}{3}, r = 22$

In the xy-plane, the terminal ray of angle θ in standard position intersects a circle of radius r at the given point. What are the values of θ and r?

7. $(13, 0)$

8. $(-2\sqrt{3}, 2)$

9. $(9\sqrt{2}, -9\sqrt{2})$

10. $(-3\sqrt{2}, -3\sqrt{2})$

Answers to 3.3B CA #1

6. $(-11, 11\sqrt{3})$	7. $\theta = 2\pi, r = 13$	8. $\theta = \frac{5\pi}{6}, r = 4$	9. $\theta = \frac{7\pi}{4}, r = 18$	10. $\theta = \frac{5\pi}{4}, r = 6$
1. $(4\sqrt{3}, 4)$	2. $\left(-\frac{7\sqrt{2}}{2}, \frac{7\sqrt{2}}{2}\right)$	3. $(6, 6\sqrt{3})$	4. $\left(\frac{3}{2}, -\frac{3\sqrt{3}}{2}\right)$	5. $\left(\frac{5\sqrt{3}}{2}, -\frac{5}{2}\right)$