

Review Questions: Prep for Final Exam

7. Given: $(x + 2)^2 + (y - 3)^2 = 9$

- a) Find the center and the radius of the circle.
- b) Find the length of an arc along the above circle, subtended by an angle of 60° . Use $s = r\theta$ with θ in radians.

8. The height of a football kicked for a field goal is modeled by

$$f(x) = -0.6x^2 + 12x + 3$$

where x is the ball's horizontal distance and $f(x)$ is the height.

- a) Find the maximum height of the ball.
- b) How far away from the kicker horizontally (along the ground) does the ball reach its maximum?