



3. Find  $dy/dx$  if  $y = \arcsin(3x)$ .

4. Find  $dy/dx$  if  $y = \arctan(\sqrt{4 - x^2})$ .

5. A 12-foot ladder is leaning against a wall. Let  $x$  denote the distance of the base of the ladder from the wall, and let  $\theta$  be the angle between the ladder and the wall. How fast does the angle  $\theta$  change with respect to  $x$ ?
6. I compute that  $d\theta/dx \approx 0.1$  when  $x = 7$ . What does this mean in language your parents can understand? Feel free to express your answer in terms of degrees instead of radians.