

## Exercise 9

For the following exercises, points  $P(4, 2)$  and  $Q(x, y)$  are on the graph of the function  $f(x) = \sqrt{x}$ .

Use the value in the preceding exercise to find the equation of the tangent line at point  $P$ .

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### Solution

The slope of the tangent line to  $f$  at  $x = 4$  is 0.25, and this line passes through  $(4, 2)$ .

$$y - 2 = 0.25(x - 4)$$

$$y - 2 = 0.25x - 1$$

$$y = 0.25x + 1$$

Below is the graph of  $y = f(x)$  and the tangent line at  $x = 4$ .

