1. Find $f'(a)$ using the definition of the derivative:

$$f(t) = 2t^2 + t$$

2. Find $f'(a)$ using the definition of the derivative:

$$f(x) = x^{-2}$$

3. Find $f'(a)$ using the definition of the derivative:

$$f(x) = \sqrt{1 + 5x}$$

4. Find an equation of the tangent line to the curve at the given point:

$$f(x) = \frac{x+1}{x-1}, \qquad (2, 3)$$

Also sketch both the curve $y = f(x)$ and the tangent line.

5. A particle moves distance $s = f(t)$ along a straight line, where s is measured in meters and t is in seconds. Find the velocity and speed when $t = 4$.

$f(t) = 40t - 5t^2$