Derivatives — Mixed

Name: _____ Date: _____

Find f'(x). Decide which rule the function needs before you start.

1. $f(x) = -2x^2 + 2x - 1$

   $f'(x) = -2 \cdot 2x + 2$
   $= -4x + 2$

2. $f(x) = \dfrac{-2x + 1}{x + 2}$

3. $f(x) = \dfrac{3x + 3}{3x - 1}$

4. $f(x) = (-3x + 1)(2x - 1)$

5. $f(x) = (2x - 2)^2$

6. $f(x) = (-2x - 3)(x + 2)$

Derivatives · Mixed — Answer key

1. $f(x) = -2x^2 + 2x - 1 \rightarrow f'(x) = -4x + 2$

2. $f(x) = \frac{-2x+1}{x+2} \rightarrow f'(x) = -\frac{5}{x+2^2}$

3. $f(x) = \frac{3x+3}{3x-1} \rightarrow f'(x) = -\frac{12}{3x-1^2}$

4. $f(x) = (-3x + 1)(2x - 1) \rightarrow f'(x) = -12x + 5$

5. $f(x) = (2x - 2)^2 \rightarrow f'(x) = 4(2x - 2)$

6. $f(x) = (-2x - 3)(x + 2) \rightarrow f'(x) = -4x - 7$