

5. Check for removable discontinuity @  $x = 1$

Solve  $f(1)$ .

$$f(x) = \frac{2x^2 + 5x - 7}{x - 1}$$

$$f(1) = \frac{2(1)^2 + 5 - 7}{1 - 1} = \frac{0}{0}$$

There is discontinuity @  $x = 1$  since

$$f(1) = \frac{0}{0}$$

We need to factor to hopefully remove the discontinuity.   
 *and simplify.*

$$f(x) = \frac{2x^2 + 5x - 7}{x - 1} = \frac{(2x - 1)(x + 7)}{x - 1}$$

rewrite the numerator

$$\frac{2(\cancel{x-1})(x+7)}{(\cancel{x-1})} = 2(x+7)$$

now we evaluate @  $x = 1$

$$2(1+7) = 2(8) = 16$$