

Quiz 1 - Sections ~~1.1, 1.2~~  
1.3, 2.1, 2.2

Name: Solution Set

1. Find the composite functions  $f \circ g$  and  $g \circ f$ .

$$f(x) = \sin x$$

$$g(x) = 1 + 2x$$

$$(f \circ g)(x) = f(g(x)) = f(1 + 2x) = \sin(1 + 2x)$$

$$(g \circ f)(x) = g(f(x)) = g(\sin x) = 1 + 2 \sin x$$

2. Find the limit:

$$\lim_{x \rightarrow 3} \frac{x^2 + 2x - 15}{x - 3}$$

$$= \lim_{x \rightarrow 3} \frac{(x-3)(x+5)}{x-3}$$

$$= \lim_{x \rightarrow 3} x + 5$$

$$= 3 + 5$$

$$= 8$$