

**Business PreCalculus**    MATH 1643 Section 004, Spring 2014  
**Worksheet 17**

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**1-** Let  $f(x) = \frac{1}{\sqrt{x+2}}$  and  $g(x) = 2x + 1$ , then find:

**a.**  $(f + g)(x)$ .

**b.**  $(f \cdot g)(2)$ .

**c.**  $(\frac{f}{g})(1)$ .

**d.**  $(f - g)(0)$ .

**2-** Let  $f(x) = \frac{1}{2}x$  and  $g(x) = 5 - x^2$ , then evaluate  $g \circ f(4a)$ .

**3-** Let  $f(x) = \frac{x^2}{x+1}$  and  $g(x) = \frac{2x}{x^2-1}$ , then:

**a.** Find  $(f + g)(x)$ .

**b.** Find the domain of  $(f + g)(x)$ .

**4-** Let  $f(x) = x^2 + x$  and  $g(x) = \sqrt{x+2}$ , then:

**a.** Find  $f \circ g(x)$ .

**b.** Find the domain of  $f \circ g(x)$ .

**5-** Let  $f(x) = \frac{1}{x^2}$  and  $g(x) = \frac{1}{2x-1}$ , then:

**a.** Find  $g \circ f(x)$ .

**b.** Find the domain of  $g \circ f(x)$ .

**6-** If  $H(x) = f \circ g(x)$  and  $H(x) = \frac{5}{7-2x} + (10x + 6)^2 - 11$  and  $g(x) = 2x$ , then find  $f(x)$ .