Name: _____

College Algebra: Quiz #25 (Solutions)

1. Find all solutions of the following equation.

$$\frac{x}{x+3} + 4 = \frac{8}{x+3}$$

Solution: First, we can clear the denominators of this equation by multiplying both sides by a common denominator; in this case, multiplying by $x+3$ will work. That gives the equation

$$x + 4(x+3) = 8.$$

(Remember! Multiplying by a variable may introduce extraneous solutions, so we will have to check our answers at the end.) Expanding this out and combining like terms gives $x = -4/5$. Since plugging this value in for x in the original equation does not make any denominators equal to zero, it is a solution. So $\boxed{x = -4/5}$.