Math 41
Quiz 1
August 30, 2010

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"calculators, you don't need no stinkin' calculators"

1. Solve the equation for x, if possible. $\frac{2x}{x+1} - \frac{1}{x-1} = 1$

$(x+1)(x-1)\left(\frac{2x}{x+1} - \frac{1}{x-1}\right) = (1)(x+1)(x-1)$

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

$2x^2 - 2x - x - 1 = x^2 - 1$

$x^2 - 3x = 0$

$x(x-3) = 0$

$x = 0 \quad x - 3 = 0$

$x = 3$

2. Solve the equation for x. $x(2x-1) = 6$

$2x^2 - x - 6 = 0$

$(2x+3)(x-2) = 0$

$2x + 3 = 0 \quad x - 2 = 0$

$x = -3/2 \quad x = 2$

3. Solve the equation for x. $x^2 - 5x - 2 = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(1)(-2)}}{2(1)}$$

$$x = \frac{5 \pm \sqrt{33}}{2}$$

In order to post grades, please provide a four digit number that you can recall.
*It does **not** need to be your psu id#*

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