Math 123
Exam 2
10/21/11

Name Key

Show All work

1) Solve by factoring or the quadratic formula

a) $x^2 + 2x = 8$

$x^2 + 2x - 8 = 0$

$(x+4)(x-2) = 0$

$x = -4$ or $x = 2$

b) $x^2 + 2x - 5 = 0$

$$x = \frac{-2 \pm \sqrt{2^2 - (4)(1)(-5)}}{2} = \frac{-2 \pm \sqrt{4+20}}{2} = \frac{-2 \pm \sqrt{24}}{2}$$

$$= \frac{-2 \pm 2\sqrt{6}}{2} = \frac{2(-1 \pm \sqrt{6})}{2} = -1 \pm \sqrt{6}$$

2) The slope of a vertical line is undefined

3) Find the slope of the line through (1, 6) and (-2, 3)

$$m = \frac{3-6}{-2-1} = \frac{-3}{-3} = 1$$

4) Find the slope of the line $2x + 3y = 12$

$3y = -2x + 12$

$y = -\frac{2}{3}x + 4$

slope $= -\frac{2}{3}$