

# Algebra 201-007-50 C1

## Quiz 8

October 30, 2008

Name: SOLUTIONS  
Student ID: \_\_\_\_\_

1. (3 marks). Solve:

$$x(x+7) = (4x+3) + (3x+13)$$

$$x^2 + 7x = 7x + 16$$

$$x^2 + 7x - 7x - 16 = 0$$

$$x^2 - 16 = 0$$

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

$$\therefore x = -4, x = 4,$$

$$\boxed{x = -4, 4}$$

2. (3 marks). Simplify:

$$\frac{5x - x^2}{x^2 + 2x - 35}$$

$$= \frac{x(5-x)}{(x+7)(x-5)}$$

$$= \frac{x(-1)(x/5)}{(x+7)(x/5)} = \frac{x}{x+7}$$

$$\begin{aligned}
 & 2x^2 + 15x + 25 \\
 & \rightarrow = 2x^2 + 5x + 10x + 25 \\
 & = x(2x + 5) + 5(2x + 5) \\
 & = (2x + 5)(x + 5)
 \end{aligned}$$

3. (4 marks). Multiply and simplify:

$$\frac{x^2 - 6x - 55}{x^2 - 36} \cdot \frac{x^2 + 4x - 12}{2x^2 + 15x + 25}$$

$$= \frac{(x+5)(x-11)}{(x+6)(x-6)} \cdot \frac{(x+6)(x-2)}{(2x+5)(x+5)}$$

$$= \frac{(x-11)(x-2)}{(x-6)(2x+5)}$$