**Dawson College**: **Algebra**: 201-007-50 02

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**Name:** SOLUTIONS

**Student ID:** _____

# Quiz 6

**Question 1.** *(4 marks)* Simplify:

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

$= 2(x^2-3x-3x+9)+3(x^2+3x-3x-9) = 2(x^2-6x+9)+3(x^2-9)$

$= 2x^2-12x+18+3x^2-27 = 5x^2-12x-9$

**Question 2.** *(4 marks)* Divide the following using long division and state what it equals:

$$\frac{4x+3x^2-1}{x-1}$$

$$\begin{array}{r} 3x+7 \\ x-1 \;\overline{)\; 3x^2+4x-1} \\ 3x(x-1) \to -(3x^2-3x) \\ \hline 7x-1 \\ 7(x-1) \quad -(7x-7) \\ \hline 6 \end{array}$$

$$\therefore \frac{4x+3x^2-1}{x-1} = 3x+7+\frac{6}{x-1}$$

**Question 3.** *(2 marks)* Factor the out the greatest common factor:

$15x^5-18x^4+21x^3-48x^2$ = $3x^2(5x^3-6x^2+7x-16)$