Dawson College: **Functions and Trigonometry**: 201-009-50-C1: Winter 2008

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Quiz 2

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. pg.25#3h (3 marks)
Simplify the following:

$$\frac{x^2-4a^2}{ax+2a^2}\times\frac{2a}{x-2a} = \frac{x^2-(2a)^2}{ax+2a^2}\left(\frac{2a}{x-2a}\right)$$

$$= \frac{(x-2a)(x+2a)(2a)}{a(x+2a)(x-2a)}$$

$$= 2$$

Question 2. pg.33#6i (3 marks)
Simplify the following:

$$(3\sqrt{5}-4\sqrt{2})(2\sqrt{5}+3\sqrt{2}) = 3(2)\sqrt{5}\sqrt{5} + 3(3)\sqrt{5}\sqrt{2} - 4(2)\sqrt{2}\sqrt{5} - 4(3)\sqrt{2}\sqrt{2}$$

$$= 6(5) + 9\sqrt{10} - 8\sqrt{10} - 12(2)$$

$$= -6 + \sqrt{10}$$

Question 3. pg.39#12 (4 marks)
The sum of three consecutive even integers is 54. Find the integers.

First even integer: $2x$
Second even integer: $2x+2$
Third even integer: $2x+4$
Sum : 54

$$2x + (2x+2) + (2x+4) = 54$$

$$6x = 48$$

$$x = 8$$

∴ first even integer $2(8) = 16$
second even integer $2(8)+2 = 18$
third even integer $2(8)+4 = 20$