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

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Quiz 3

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.59#1k (4 marks)

~~Simplify the following:~~ Solve for x:

$$\frac{2}{x-2}-\frac{5}{x+2}=\frac{2}{x^2-4} \iff \frac{2}{x-2}-\frac{5}{x+2}=\frac{2}{(x-2)(x+2)}$$

LCD $= (x-2)(x+2)$

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

$$2x+4-5x+10 = 2$$

$$-3x = -12$$

$$x = 4$$

Question 2. pg.53#2g (2 marks)

Use the quadratic formula to solve for x:

$4x^2+4x-7=0$

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

$$= \frac{-4 \pm \sqrt{(4)^2-4(4)(-7)}}{2(4)}$$

$$= \frac{-4 \pm \sqrt{128}}{8}$$

$$= \frac{-4}{8} \pm \frac{\sqrt{2\cdot 64}}{8}$$

$$= -\frac{1}{2} \pm \frac{8\sqrt{2}}{8}$$

$$= -\frac{1}{2} \pm \sqrt{2}$$

Question 3. pg.45#9 (4 marks)

The sum of the *squares* of two consecutive *odd* integers is 202. Find the integers.

$$(2x+1)^2+(2x-1)^2 = 202$$

$$4x^2+4x+1+4x^2-4x+1 = 202$$

$$8x^2 = 200$$

$$8x^2 = 200$$

$$x^2 = 25$$

$$x = \pm 5$$

∴ 9 and 11
∴ and −9 and −11