Dawson College: Functions and Trigonometry: 201-009-50-S2: Winter 2009

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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.27#8g *(5 marks)* Simplify the complex fraction:

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

$$= \frac{\frac{1}{x(x+1)}}{\frac{1}{x+1}}$$

$$= \frac{x+1}{x(x+1)} = \frac{1}{x}$$

Question 2. pg.33#7v *(3 marks)* Rationalize the denominator and simplify:

$$\frac{\sqrt{x}}{\sqrt{x}+\sqrt{y}}\left(\frac{\sqrt{x}-\sqrt{y}}{\sqrt{x}-\sqrt{y}}\right) = \frac{\sqrt{x}(\sqrt{x}-\sqrt{y})}{x+\sqrt{x}\sqrt{y}-\sqrt{x}\sqrt{y}-y}$$

$$= \frac{\sqrt{x}(\sqrt{x}-\sqrt{y})}{x-y}$$

Question 3. pg.32#5l *(2 marks)* Simplify:

$$3\sqrt{11}-\sqrt{44}+\sqrt{99} = 3\sqrt{11}-\sqrt{4\cdot 11}+\sqrt{9\cdot 11}$$

$$= 3\sqrt{11}-\sqrt{4}\sqrt{11}+\sqrt{9}\sqrt{11}$$

$$= 3\sqrt{11}-2\sqrt{11}+3\sqrt{11}$$

$$= 4\sqrt{11}$$