



Math 151 Sec F08N03/F08N04 Test 1 – Sep 26 2008

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*name (printed)*

*student number*

**I have read and understood  
the instructions below:**

*signature*

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**Instructions:**

1. No notes or books are to be used in this test. If you need scrap paper please ask and some will be provided.
2. A non-programmable, non-graphing calculator is permitted.
3. There are 6 pages (including this cover page) in the test. Justify every answer, and clearly show your work. Unsupported answers will receive no credit.
4. You will be given **55 minutes** to write this test. Read over the test before you begin.
5. At the end of the test you will be given the instruction "Put away all writing implements and remain seated." *Continuing to write after this instruction will be considered as cheating.*
6. **Academic dishonesty:** Exposing your paper to another student, copying material from another student, or representing your work as that of another student constitutes academic dishonesty. Cases of academic dishonesty may lead to a zero grade in the test, a zero grade in the course, and other measures, such as suspension from this university.

Question	value	score
1	10	
2	10	
3	10	
4	10	
5	10	
<b>Total</b>	<b>50</b>	

**Question 1:**

(a)[5 points] Simplify. Express your answer so that all exponents are positive.

$$\frac{4x^{-2}(yz)^{-1}}{2^3x^4y}$$

(b)[5 points] Solve and state your answer using interval notation:

$$3 - 4(1 - x) \leq 4$$

**Question 2:**

(a)[5 points] Find the quotient and remainder when  $5x^4 - x^3 + x - 2$  is divided by  $x^2 + 2$ . In your answer clearly state which is the quotient and which is the remainder.

(b)[5 points] Determine if  $x + 3$  is a factor of  $2x^6 - 18x^4 + x^2 - 9$ . Clearly state and give a reason for your conclusion.

**Question 3:**

(a)[5 points] Factor completely:

$$3y^3 - 18y^2 - 48y$$

(b)[5 points] Factor completely:

$$x^8 - x^5$$

**Question 4:**

(a)[5 points] Solve for  $t$ :

$$8t^2 - 2t - 3 = 0$$

(b)[5 points] Simplify:

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

Question 5:

(a)[5 points] Solve for  $x$ :

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

(b)[5 points] Solve for  $w$ :

$$\frac{5}{w+4} = 4 + \frac{3}{w-2}$$