

Dawson College
Mathematics Department
Final Examination

201-NYA-05, Calculus I- Chem. Tech/Lab Tech.

Section: 00005

Tuesday, May 22, 2012

Student Name: _____

Student I.D. #: _____

Instructor: O. Veres

Time: 9:30 AM – 12:30 PM

INSTRUCTIONS:

x

1. [6 marks] Find the following limits:

a. $\lim_{x \rightarrow 0} \frac{9x^2 + 6x + 7}{x^2 + 8x + 6}$

b. $\lim_{x \rightarrow 5} \frac{6x^2 + 6}{x^2 + 6}$

2. [16 marks] Find the derivative of each function.

a. $U = \frac{5x^2 + 7x}{x^2 + 6}$

b. $B: T; L = \frac{d}{dt} (x^2 + 7x)$

c. $U = \frac{d}{dx} (x^2 + 6x + 7)$

d. $B: P; L = \frac{d}{dt} (x^2 + 6x)$

3. [5 marks] Find the derivative of $B: T; L = \frac{d}{dt} (x^2 + 6x)$ using the definition of the derivative.

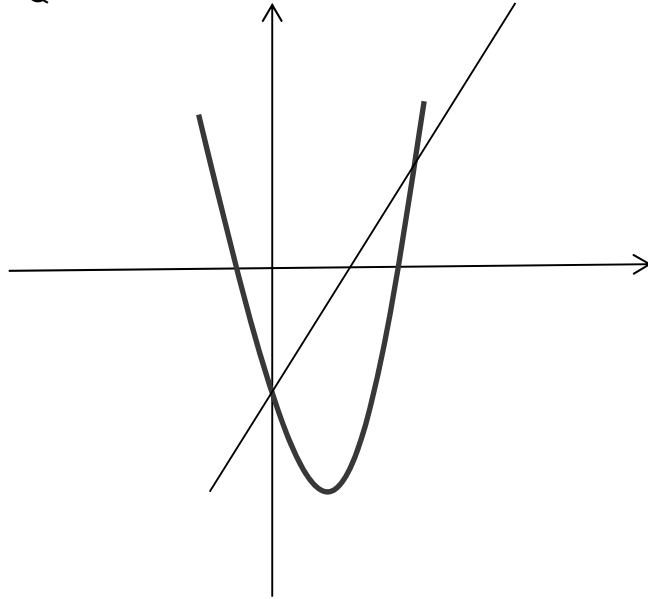
7. i_5^9 B:T;@T r ä z r v u

8. säy{xu

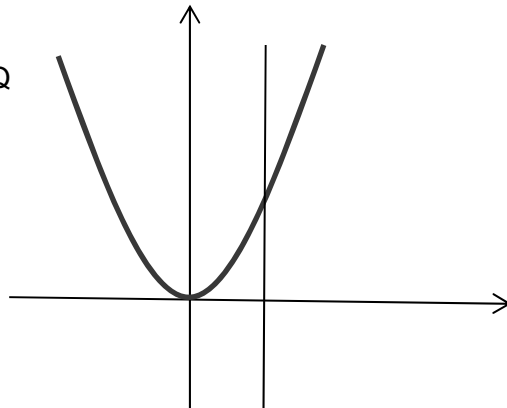
9. a. A-p a q g l e % b. 145/6 c. $F \frac{0 \text{ ä } 0 \text{ ä}}{8}$ E % d. $\frac{7}{6} \checkmark \bullet T^6$ F w E %

10. $x=2, x=3/2$

11. # $\frac{7}{7}^6$ Q



12. a. $8 \frac{8}{9} Q$ b. $8 L 7 \text{ ä } Q$



13. a. $\frac{x i}{x \text{ ä }} L \frac{8 \text{ ä } ? 7}{7 i \cdot ? 8 i}$ b. $y=3x+1$