Sols

MATH 141: QUIZ 2 VERSION A

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Name and Section: _____

No phone or calculator. You must show all work to receive full credit. Simplify your coefficients when applicable.

1. (5 points) Find the average rate of change of $y = -2x^2 + 3$ over the interval $[2, 4]$.

+1 $\dfrac{f(b)-f(a)}{b-a}$

$$\frac{f(4)-f(2)}{4-2} = \frac{-2(4)^2+3-(-2(2)^2+3)}{2} \quad +2$$

$$= \frac{-2(16)+3-(-8+3)}{2} \quad +1$$

$$= \frac{-24}{2}$$

$$= -12 \quad +1$$

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2. (1 point each) State the following limit laws assuming $\lim_{x\to c} f(x) = L$, $\lim_{x\to c} g(x) = M$, $M \neq 0$, and n is a positive integer:

(a) $\lim_{x\to c}(f(x) + g(x)) =$ $L+M$

(b) $\lim_{x\to c}(kf(x)) =$ kL

(c) $\lim_{x\to c}(f(x)g(x)) =$ $L \cdot M$

(d) $\lim_{x\to c} \frac{f(x)}{g(x)} =$ $\frac{L}{M}$

(e) $\lim_{x\to c}(f(x))^n =$ L^n