

Name: _____

ID: A

____ 5. Given the function $y = f(x)$ and the following information:

$$\bullet 3 = f(1) \quad \bullet dx = 0.2 \quad \bullet dy = (x^2 + x)dx$$

Using differentials, what would be the best approximation of $f(1.2)$?

- | | |
|-------------------------|-------------------------|
| a. $f(1.2) \approx 0.2$ | d. $f(1.2) \approx 3.0$ |
| b. $f(1.2) \approx 0.4$ | e. $f(1.2) \approx 3.2$ |
| c. $f(1.2) \approx 2.6$ | f. $f(1.2) \approx 3.4$ |

____ 6. Given the function $y = f(x)$ and the following information:

$f(2) = 0.5$	$dy = x^2 \cdot dx$
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Using differentials, what would be the best approximation of $f(2.1)$?

- | | |
|-------------------------|--------------------------|
| a. $f(2.1) \approx 0.4$ | d. $f(2.1) \approx 0.9$ |
| b. $f(2.1) \approx 0.6$ | e. $f(2.1) \approx 4.41$ |
| c. $f(2.1) \approx 0.7$ | f. $f(2.1) \approx 4.91$ |

**03-05 - Linear Approximations
Answer Section****MULTIPLE CHOICE**

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|-----------|--------|-------------------------|
| 1. ANS: B | PTS: 1 | REF: GSU Calculus |
| 2. ANS: E | PTS: 1 | REF: Matt's Math Labs © |
| 3. ANS: E | PTS: 1 | REF: Matt's Math Labs © |
| 4. ANS: D | PTS: 1 | REF: Matt's Math Labs © |
| 5. ANS: F | PTS: 1 | REF: Matt's Math Labs © |
| 6. ANS: D | PTS: 1 | REF: Matt's Math Labs © |