

Find the linearization of the function.

Find $L(a + .1)$ and $f(a + .1)$

Using concavity, determine if the Tangent Line at a is an overestimate or an underestimate. Justify your answer.

1. $f(x) = x^2 + 3x + 4$ $a = -2$

2. $f(x) = x^3 + 1$ $a = 1$

3. $f(x) = \sqrt{x-1}$ $a = 5$

4. $f(x) = x + \frac{4}{x}$ $a = 4$

5. $f(x) = \frac{1}{x+1}$ $a = 0$

Find the linearization of the function.

Find $L(a + .1)$ and $f(a + .1)$

Using concavity, determine if the Tangent Line at a is an overestimate or an underestimate. Justify your answer.

$$1. \quad f(x) = x^2 - 5x + 1 \quad a = 3$$

$$2. \quad f(x) = \sqrt{1+x} \quad a = 0$$

$$3. \quad f(x) = x^3 - 2x + 3 \quad a = 2$$