

PRACTICE: Slope of the Tangent - $f(a + h)$

1. Determine a simplified expression for the slope of the tangent for each of the following.

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

b) $f(x) = -x^2 + 10$

c) $f(x) = x^3 - 4$

2. Determine the slope of the tangent of the function $f(x) = 3x^2 + 2x - 5$ at

a) $x = 1$

b) $x = 4$

c) $x = -3$

3. Determine the slope of the tangent of the function $f(x) = x^3 - 2x^2 + 1$ at

a) $x = 2$

b) $x = -4$

c) $x = 5$

4. Determine the slope of the tangent of the function $f(x) = x^2 + 5x + 6$ at

a) $x = 5$

b) $x = -5$

c) $x = -2.5$

Answers

1. a) $4x + 1$

b) $-2a$

c) $3a^2$

2. a) 8

b) 26

c) -16

3. a) 4

b) 64

c) 55

4. a) 15

b) -5

c) 0