

Derivative Applications

Tangent & Normal

Normal

1. normal of $f(x) = 3x^2$, at $x = 1$
2. normal of $4x^2$, at $x = 1$
3. normal of $y = 3x^3 - 3x$, at $(1, 0)$
4. normal of $y = x^2 - 2x + 1$, at $(0, 1)$
5. normal of $y = x^2 + 3x + 2$, at $x = 1$
6. normal of $y = (3x^2 - 1)^3$, at $x = \frac{1}{3}$
7. normal of $\sqrt{x+1}$, at $x = 1$
8. normal of $y = 2x^3 + 5x^2 - 2$, at $x = -2$
9. normal of $y = \sqrt{x+4}$, at $x = 5$
10. normal of $y = \frac{2x+3}{x-2}$, at $(1, -5)$

Answers**Derivative Applications****Tangent & Normal****Normal**

$$1. y = -\frac{1}{6}x + \frac{19}{6}$$

$$2. y = -\frac{1}{8}x + \frac{33}{8}$$

$$3. y = -\frac{1}{6}x + \frac{1}{6}$$

$$4. y = \frac{1}{2}x + 1$$

$$5. y = -\frac{1}{5}x + \frac{31}{5}$$

$$6. y = -\frac{3}{8}x - \frac{37}{216}$$

$$7. y = -2\sqrt{2}x + 3\sqrt{2}$$

$$8. y = -\frac{1}{4}x + \frac{3}{2}$$

$$9. y = -6x + 33$$

$$10. y = \frac{1}{7}x - \frac{36}{7}$$