1. Chapter 3, Section 3.1, Question 006

Find the derivative of the given function.

\[ y = x^{10} \]

\[ y' = \] 

2. Chapter 3, Section 3.1, Question 010

Find the derivative of the given function.

\[ y = x^{2.1} \]

\[ y' = \] 

3. Chapter 3, Section 3.1, Question 011

Find the derivative of the given function.

\[ y = x^{-\frac{11}{5}} \]

\[ y' = \] 

4. Chapter 3, Section 3.1, Question 014

Find the derivative of the given function.

\[ y = 2x^2 + 5x + 3 \]

\[ y' = \]
5. Chapter 3, Section 3.1, Question 018

Find the derivative of the given function.

\[ f(z) = -\frac{1}{z^{6.8}} \]

\[ f'(z) = \]

6. Chapter 3, Section 3.1, Question 022

Find the derivative of the given function.

\[ h(\theta) = \frac{1}{\sqrt[5]{\theta}} \]

Include a multiplication sign between symbols. For example, \( a \times x \).

\[ h'(\theta) = \]

7. Chapter 3, Section 3.1, Question 025
Find the derivative of the given function.

\[ y = 8x^{\frac{3}{2}} - 3x^{\frac{1}{2}} \]

To enter \( \sqrt{a} \), type \texttt{sqrt(a)}.

\[ y' = \]

**8. Chapter 3, Section 3.1, Question 028**

Find the derivative of the given function.

\[ y = 9z^2 + \frac{1}{2z} \]

\[ y' = \]

**9. Chapter 3, Section 3.1, Question 030**

Find the derivative of the given function.

\[ h(w) = -5w^{-2} + 10\sqrt{w} \]

To enter \( \sqrt{a} \), type \texttt{sqrt(a)}.

\[ h'(w) = \]

**10. Chapter 3, Section 3.1, Question 035**
Find the derivative of the given function.

\[ y = t^{\frac{1}{2}} (16 + \sqrt{t}) \]

To enter \( \sqrt{a} \), type sqrt(a).
Use multiplication sign in all cases of multiplication.

\[ \frac{dy}{dz} = \phantom{-} \]

11. Chapter 3, Section 3.1, Question 036

Find the derivative of the given function.

\[ h(t) = \frac{6}{t} + \frac{4}{t^2} \]

\[ h'(t) = \phantom{-} \]

12. Chapter 3, Section 3.1, Question 038

Find the derivative of the given function.

\[ y = \frac{z^2 + 6}{z} \]

\[ y'(x) = \phantom{-} \]

13. Chapter 3, Section 3.1, Question 043
Find the derivative of the given function. Assume that \( a, b, \) and \( c \) are constants.

\[
j(x) = \frac{x^5}{a} + \frac{a}{b}x^4 - cx
\]

\[
j'(x) = \]

14. Chapter 3, Section 3.1, Question 068

If \( f(x) = (7x + 17)(6x - 12) \), find \( f'(x) \) and \( f''(x) \).

\[
f'(x) = \]

\[
f''(x) = \]

15. Chapter 3, Section 3.1, Question 069

Find the equation of the line tangent to the graph of \( f \) at \((1, 2)\), where \( f \) is given by \( f(x) = 6x^3 - 6x^2 + 2 \).

\[
y = \]

16. Chapter 3, Section 3.1, Question 114

If \( f(x) = 16x^3 + 24x^2 - 95x + 17 \), find the intervals on which \( f'(x) \geq 1 \).
a. \( x \geq 2 \) or \( x \leq 1 \)

b. \( x \geq 1 \) or \( x \leq -1 \)

c. \( x \geq 1 \) or \( x \leq -2 \)

d. \( x \geq 2 \) or \( x \leq -2 \)

e. \( x \geq 2 \) or \( x \leq -1 \)

Answer: 

17. Chapter 3, Section 3.1, Additional Question 004

Find the equation of the tangent line to the curve

\[ y = 2x^2 - 4x + 3 \] at the point \((0, 3)\).

\[ y = \]