

1) $y = x^2 + 4x$, $[4, 7]$

A) 11

B) 15

C) $\frac{45}{7}$

D) $\frac{77}{3}$

1) _____

Find the slope of the curve at the given point P and an equation of the tangent line at P.

2) $y = x^2 + 5x$, $P(4, 36)$

A) slope is $-\frac{4}{25}$; $y = -\frac{4x}{25} + \frac{8}{5}$

B) slope is 13; $y = 13x - 16$

C) slope is $\frac{1}{20}$; $y = \frac{x}{20} + \frac{1}{5}$

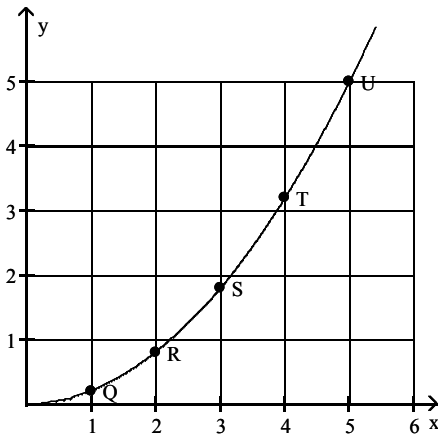
D) slope is -39; $y = -39x - 80$

2) _____

Use the slopes of UQ, UR, US, and UT to estimate the rate of change of y at the specified value of x.

3) $x = 5$

3) _____



A) 5

B) 0

C) 1

D) 2

Use the table to estimate the rate of change of y at the specified value of x.

4) $x = 1$.

4) _____

x	y
0	0
0.2	0.02
0.4	0.08
0.6	0.18
0.8	0.32
1.0	0.5
1.2	0.72
1.4	0.98

A) 1

B) 1.5

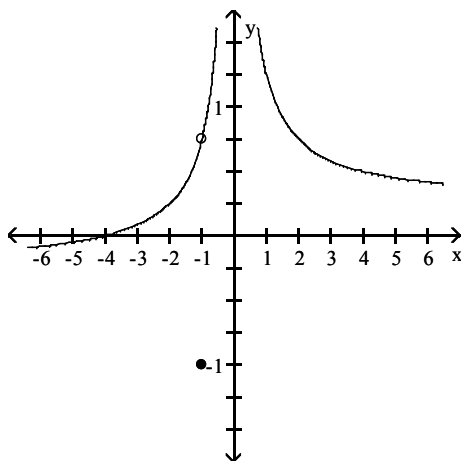
C) 0.5

D) 2

Use the graph to evaluate the limit.

5) $\lim_{x \rightarrow -1} f(x)$

5) _____



- A) $-\frac{3}{4}$ B) -1 C) $\frac{3}{4}$ D) ∞

Find the limit.

6) $\lim_{x \rightarrow 2} (8x + 3)$

6) _____

- A) 19 B) 3 C) -13 D) 11

Find the limit if it exists.

7) $\lim_{x \rightarrow -3} (4x - 4)$

7) _____

- A) -16 B) 16 C) 8 D) -8

Find the limit.

8) $\lim_{x \rightarrow 0} (3 \sin x - 1)$

8) _____

- A) 3 B) 0 C) -1 D) $3 - 1$

Find an equation for the tangent to the curve at the given point.

9) $y = \frac{x^3}{2}, (8, 256)$

9) _____

- A) $y = 32x - 512$ B) $y = 96x - 512$ C) $y = 512x + 96$ D) $y = 32x + 512$

Calculate the derivative of the function. Then find the value of the derivative as specified.

10) $g(x) = 3x^2 - 4x; g'(3)$

10) _____

- A) $g'(x) = 6x; g'(3) = 18$ B) $g'(x) = 3x - 4; g'(3) = 5$
 C) $g'(x) = 2x - 4; g'(3) = 2$ D) $g'(x) = 6x - 4; g'(3) = 14$

Find the indicated derivative.

11) $\frac{dy}{dx}$ if $y = 3x^3$

11) _____

- A) $9x^3$ B) $3x^2$ C) $9x^2$ D) $9x$

Find the derivative.

12) $y = 2 - 8x^3$

A) $-24x$

B) $2 - 24x^2$

C) $-16x^2$

D) $-24x^2$

12) _____

Find y' .

13) $y = (5x - 5)(6x + 1)$

A) $60x - 12.5$

B) $60x - 25$

C) $30x - 25$

D) $60x - 35$

13) _____

Find the derivative of the function.

14) $y = \frac{x^3}{x - 1}$

A) $y' = \frac{-2x^3 - 3x^2}{(x - 1)^2}$

B) $y' = \frac{2x^3 + 3x^2}{(x - 1)^2}$

C) $y' = \frac{-2x^3 + 3x^2}{(x - 1)^2}$

D) $y' = \frac{2x^3 - 3x^2}{(x - 1)^2}$

14) _____

Find the derivative.

15) $y = \frac{8}{x} + 3 \sec x$

A) $y' = -\frac{8}{x^2} + 3 \sec x \tan x$

B) $y' = -\frac{8}{x^2} - 3 \csc x$

C) $y' = \frac{8}{x^2} - 3 \sec x \tan x$

D) $y' = -\frac{8}{x^2} + 3 \tan^2 x$

15) _____