Calculus Name_____ ID: 1

WEEK 9 HW - Extension!

Date_____ Period____

For each problem, find the derivative of the function at the given value.

1) $y = x^3 - x^2 - 3$ at $x = 2$

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

3) $y = -\sec(x)$ at $x = -\frac{5\pi}{6}$

4) $y = -\sec(2x)$ at $x = 0$

5) $y = -2\sec(x)$ at $x = \frac{\pi}{3}$

6) $y = x^3 - x^2 + 2$ at $x = -1$

7) $y = -x^3 + 4x^2 - 2$ at $x = 2$

8) $y = -\csc(x)$ at $x = -\frac{5\pi}{6}$

9) $y = x^3 - 4x^2 + 3$ at $x = -1$

10) $y = x^3 - 7x^2 + 11x + 1$ at $x = 1$

11) $y = -x^3 + 13x^2 - 56x + 80$ at $x = 3$

12) $y = (2x + 2)^{\frac{1}{2}}$ at $x = 2$

Answers to WEEK 9 HW - Extension! (ID: 1)

1) $\left.\frac{dy}{dx}\right|_{x=2} = 8$

2) $\left.\frac{dy}{dx}\right|_{x=-3} = -\frac{\sqrt{3}}{4}$

3) $\left.\frac{dy}{dx}\right|_{x=-\frac{5\pi}{6}} = \frac{2}{3}$

4) $\left.\frac{dy}{dx}\right|_{x=0} = 0$

5) $\left.\frac{dy}{dx}\right|_{x=\frac{\pi}{3}} = -4\sqrt{3}$

6) $\left.\frac{dy}{dx}\right|_{x=-1} = 5$

7) $\left.\frac{dy}{dx}\right|_{x=2} = 4$

8) $\left.\frac{dy}{dx}\right|_{x=-\frac{5\pi}{6}} = -2\sqrt{3}$

9) $\left.\frac{dy}{dx}\right|_{x=-1} = 11$

10) $\left.\frac{dy}{dx}\right|_{x=1} = 0$

11) $\left.\frac{dy}{dx}\right|_{x=3} = -5$

12) $\left.\frac{dy}{dx}\right|_{x=2} = \frac{\sqrt{6}}{6}$