

What you'll Learn About

Determine which are Polynomial Functions. For those that are, state the degree and leading coefficient.

a) $f(x) = 4x^3 - 5x - .5$ b) $g(x) = 6x^4 + 7$

c) $h(x) = \sqrt{9x^4 + 16x^2}$ d) $k(x) = 15 - 2x^4$

$\frac{\Delta y}{\Delta x} = m$
 $\frac{y - y_1}{x - x_1} = m(x - x_1)$

$y - y_1 = m(x - x_1)$
 $+ y_1 + y_1$
 $y = y_1 + m(x - x_1)$

Point Slope Equation
 Point (x_1, y_1)

Point-Slope = slope

Write an equation for the linear function f satisfying the given conditions then graph the function.

$f(-1) = 2$ $f(5) = 12$

$(-1, 2)$ $(5, 12)$
 $m = \frac{12 - 2}{5 - (-1)} = \frac{10}{6} = \frac{5}{3}$

$y = mx + b$

$y = y_1 + m(x - x_1)$

$y = 12 + \frac{5}{3}(x - 5)$

$y = 12 + \frac{5}{3}x - \frac{25}{3}$

$y = \frac{5}{3}x + \frac{11}{3}$

$y = 2 + \frac{5}{3}(x - (-1))$

$y = 2 + \frac{5}{3}x + \frac{5}{3}$

$y = \frac{5}{3}x + \frac{11}{3}$

Write an equation for the linear function f satisfying the given conditions then graph the function.

$f(2) = 5$ $f(-3) = 7$

$(2, 5)$ $(-3, 7)$
 $m = \frac{5 - 7}{2 - (-3)} = \frac{-2}{5}$

Point-Slope: $y = 5 - \frac{2}{5}(x - 2)$

Slope-Int $y = -\frac{2}{5}x + \frac{29}{5}$

$(s) y = -\frac{2}{5}x + \frac{29}{5}(s)$

$5y = -2x + 29$

$+2x \quad +2x$
 $2x + 5y = 29$

No Fractions/Decimals

X and y on same side

Standard Form