

March 30, 2016

#5) $f(x) = \begin{cases} 1-x^2 & \text{if } x \leq -2 \\ 3x & \text{if } -2 < x \leq 4 \\ 2|x+1| & \text{if } x > 4 \end{cases}$

a) $f(5) = 2|5+1| = 2|6| = 2 \cdot 6 = 12$

b) $f(-3) = 1 - (-3)^2$
 $= 1 - 9$
 $= -8$

c) $f(-1) = 3(-1) = -3$

d) $f(4) = 3(4) = 12$

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$f(x) = x^2 - 6x + 10$

$x^2 - 6x + 10$

$x^2 - 6x = -10$

$-6 \cdot \frac{1}{2} = -3$

$(-3)^2 = 9$

$x^2 - 6x + 9 = -10 + 9$

$(x-3)^2 = -1$

$f(x) = (x-3)^2 + 1$

Vertex: (3, 1)

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$p(x) = a_n x^n + a_{n-1} x^{n-1} + \dots + a_1 x + a_0$

$n = 3$

$a_3 x^3 + a_2 x^2 + a_1 x + a_0$

Degree: 3

you have 3 solutions

where the graph crosses the x-axis

or finding the zeros of the function.

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Polynomial functions

• Continuous

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