March 11, 2024

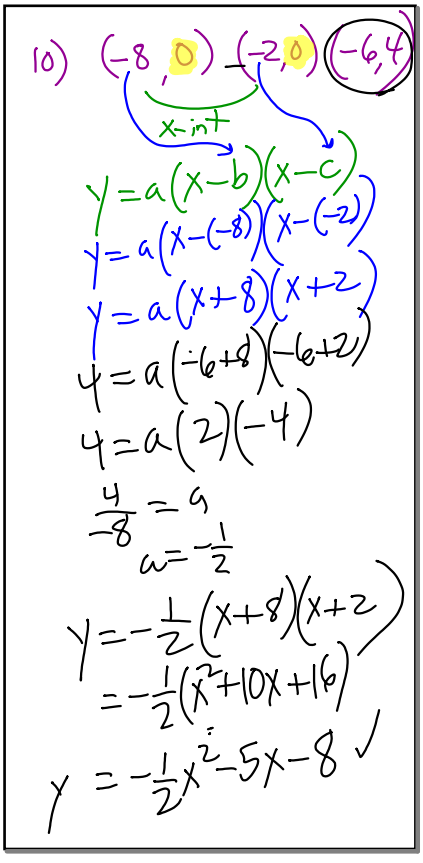
Algebra 1

Our Goal: To review for the Unit 8 test

Warm Up: Please have your homework out for checking

Today's Homework:
· 8.1-8.6 Chapter Review, p.470-472: 1-30
· i-Ready due Friday

Previous Homework
8.1-8.6 Review, p.473: 1-17



$(4,0)(1,9)$ $y=a(x-h)^2+k$

$y=a(x-1)^2+9$

$0=a(4-1)^2+9$

$0=9a+9$

$a=-1$

$y=-(x-1)^2+9$

$y=-(x^2-2x+1)+9$

$y=-x^2+2x-1+9$

$y=-x^2+2x+8$

$y=\frac{1}{2}x^2$

fractal

$y = -6x^2$

x	y
0	4
1	4/3
2	4/9
3	4/27

$\cdot \frac{3}{1}$

$m = \frac{\Delta y}{\Delta x}$

$y = mx + b$

$y = 3x \to 8$

$y = a \cdot \left(\frac{1}{3}\right)^x$

x	y
0	-3
1	0
2	1
3	0

Constant 2nd diffs

+3, +1, -1

-2, -2

$y = a(x-p)(x-q)$

$y = a(x-1)(x-3)$

$1 = a(2-1)(2-3)$

$1 = a(1)(-1)$

$\frac{1}{-1} = \frac{a}{-1}$

$a = -1$

$y = -(x+1)(x+3)$

Chapter 8 Test Topics

- Characteristics of a quadratic function
  - > Vertex
  - > Equation of axis of symmetry
  - > Interval where increasing / decreasing
  - > y-intercept
  - > x-intercept(s) or zeros
  - > minimum or maximum value
  - > Domain / Range
  - > Sketching the graph
- Even and odd functions
- Finding the zeros and vertex of a parabola
- Writing the equation of a quadratic function

$f(x) = -2(x-1)^2 + 6$

vertex: (,)

equation of axis of symmetry:

interval where increasing:

interval where decreasing:

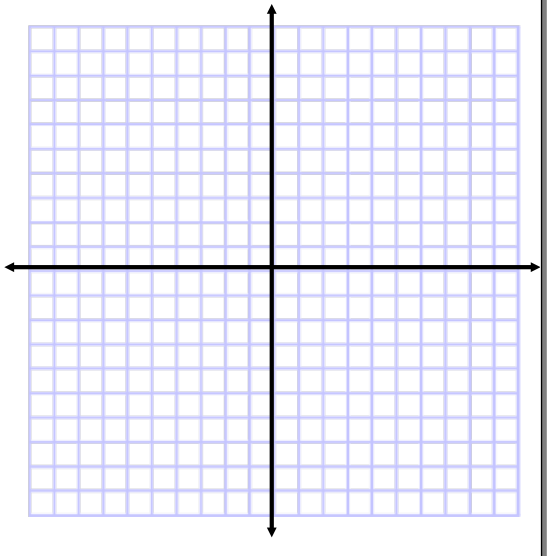
domain:

range:

minimum or maximum

min/max value:

sketch the graph



Is the function even, odd, or neither?

$f(x) = x + 9$

Is the function even, odd, or neither?

$g(x) = x^3 + 3x$

Write the equation of the quadratic function
with a vertex of (–2 , 4) that passes through (0 , 2)

Write the equation of the quadratic function with
x-intercepts of –1 and 7 that passes through (3 , 8)

domain:

range:

zeros:

width compared to $y=x^2$
narrower / same / wider

equation of the function in vertex form: