

1. Evaluate the following for  $f(x) = \begin{cases} x + 15 & \text{if } x < -3 \\ 5x^2 + 1 & \text{if } -3 \leq x < 2 \\ x^3 - 4 & \text{if } x \geq 2 \end{cases}$

$$f(-3) = 5(-3)^2 + 1 = 46$$

$$f(4) = (4)^3 - 4 = 60$$

2. Use  $g(x) = 0.8x^2 + 28.8x + 450$  to answer the following.

Find the x-value of the vertex using  $x = \frac{-b}{2a}$

Vertex:  $(-18, 190.8)$

maximum: none

minimum = 190.8

range:  $y \geq 190.8$