

WARMUP 18 MAY

For the following **quadratic** function:

$$f(x) = \frac{1}{2}x^2 - 2x - 4$$

a. Make a representative sketch of the function. Significant points should be in correct quadrants.

b. State the Domain and the Range

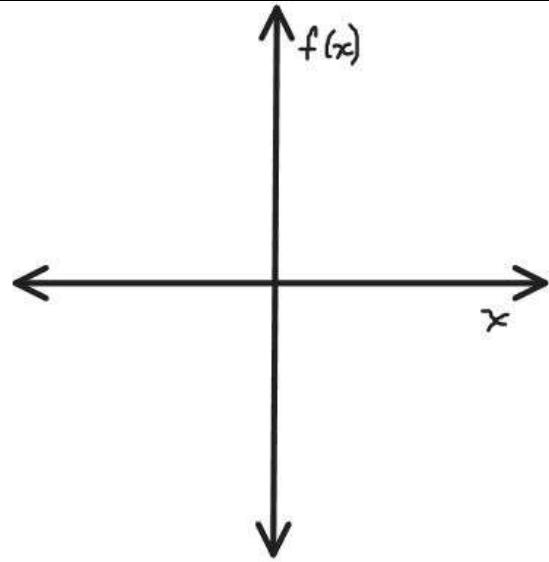
$$\{ \text{_____} < x < \text{_____} \}$$

$$\{ \text{_____} < f(x) < \text{_____} \}$$

c. Indicate on the sketch and state the following.

Vertex: (_____, _____)

Axis of Symmetry: $x = \text{_____}$



d. Indicate on the sketch and state:

y – intercept: (_____, _____)

'zeros' [x- intercept(s)] if any

(_____, _____) ; (_____, _____)

e. State the minimum value of the function: _____

f. solve for x:

$$5 = \frac{1}{2}x^2 - 2x - 4$$

$x = \{ \text{_____}, \text{_____?_____} \}$

g. evaluate: $f(4) = \text{_____}$

For the following **exponential** function:

$$f(x) = 100 * 2^x$$

a. Make a representative sketch of the function. Significant points should be in correct quadrants.

b. State the Domain and the Range

$$\{ \text{_____} < x < \text{_____} \}$$

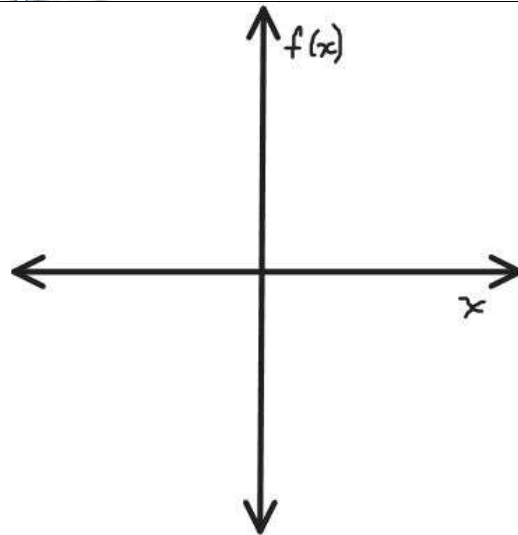
$$\{ \text{_____} < f(x) < \text{_____} \}$$

c. Indicate on the sketch and state the following.

Asymptote: $y = \text{_____}$

Axis of Symmetry: $x = \text{_____}$

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d. Indicate on the sketch and state:

y – intercept: (_____, _____)

'zeros' [x- intercept(s)] if any

(_____, _____) ; (_____, _____)

e. state the minimum or maximum value of the function:

f. solve for x:

$$420 = 100 * 2^x$$

x = _____

g. Evaluate: $f(3.5) = \text{_____}$