

Graphs are read from left to right (like a book):

H) Interval of Increase: this is where the graph is headed uphill;

For a *smiling* quadratic graph, this will be the *right side* of the u: (h value, ∞)

For a *frowning* quadratic graph, this will be the *left side* of the u: ($-\infty$, h value)

I) Interval of Decreasing: this is where the graph is headed downhill;

For a *smiling* quadratic graph, this will be the *left side* of the u: ($-\infty$, h value)

for a *frowning* quadratic graph, this will be the *right side* of the u: (h value, ∞)

Intervals of increase and decrease refer to the x values only. The h value will be in both intervals since it is the turning point of the parabola (where it changes directions).

Examples

f(x) = 2(x - 1)²

a = ___ h = ___ k = ___

Opens: up or down

Vertex: _____

Max or Min: _____

Axis of symmetry: _____

X-Intercept: _____

Y-Intercept: _____

Rate of Change from x = 1 to x = 3

Domain: _____

Range: _____

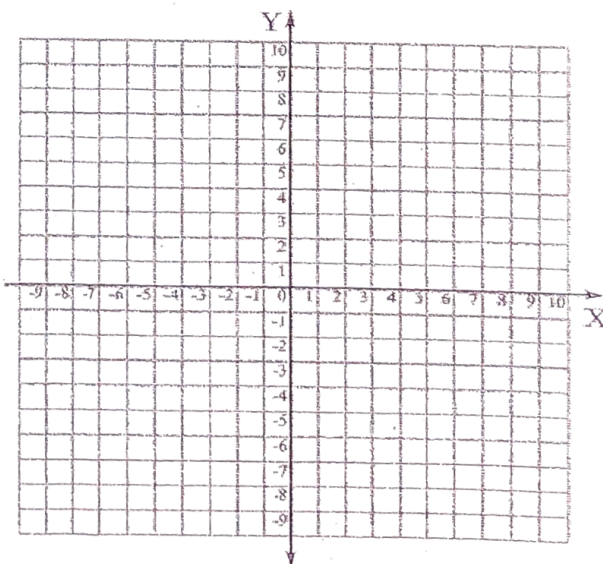
End behavior : As x $\rightarrow -\infty$, y \rightarrow

x $\rightarrow \infty$, y \rightarrow

Interval of Increase: _____

Interval of Decrease: _____

x	y



Example 2: $f(x) = -(x+1)^2 + 4$

a = ___ h = ___ k = ___

Opens: up or down

Vertex: _____

Max or Min: _____

Axis of symmetry: _____

X-Intercept: _____

Y-Intercept: _____

Rate of Change from $x = -3$ to $x = -2$

Domain: _____

Range: _____

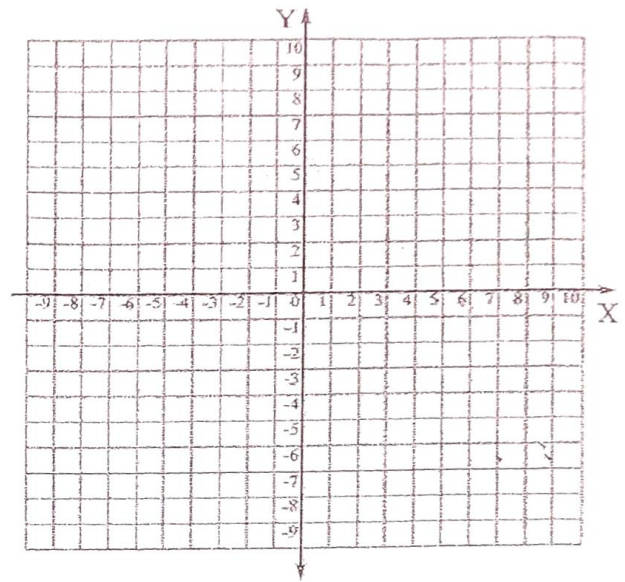
End behavior : As $x \rightarrow -\infty, y \rightarrow$

$x \rightarrow \infty, y \rightarrow$

Interval of Increase: _____

Interval of Decrease: _____

x	y



Example 3: $y = (x - 4)^2$

a = ___ h = ___ k = ___

Opens: up or down

Vertex: _____

Max or Min: _____

Axis of symmetry: _____

X-Intercept: _____

Y-Intercept: _____

Rate of Change from $x = 5$ to $x = 6$

Domain: _____

Range: _____

End behavior : As $x \rightarrow -\infty, y \rightarrow$

$x \rightarrow \infty, y \rightarrow$

Interval of Increase: _____

Interval of Decrease: _____

x	y

