Unit 4 Quiz Review: Vertex Form/Characteristics

1. $\mathrm{f}(\mathrm{x})=(x+2)^{2}-16$


| $x$ | $y$ |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

$\mathrm{a}=$ $\qquad$ $k=$ $\qquad$
Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y-Intercept: $\qquad$
Rate of Change from $x=-1$ to $x=0$
Domain: $\qquad$
Range: $\qquad$
End behavior: As $x \rightarrow-\infty, y \rightarrow$

$$
x \rightarrow \infty, y \rightarrow
$$

Interval of Increase: $\qquad$
Interval of Decrease: $\qquad$
Opens: up or down
Vertex:
Max or Min:
Axis of symmetry:
Roots:
Y-Intercept:

Domain:
Range:

Interval of Increase:
Interval of Decrease:
2. $\mathrm{f}(\mathrm{x})=(x-1)^{2}-5$


Name: $\qquad$
3. $\mathrm{f}(\mathrm{x})=-(x+2)^{2}$


| $x$ | $y$ |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

$a=$ $\qquad$ $h=$ $\qquad$ $k=$ $\qquad$
$\mathrm{a}=$ $\qquad$ $h=$ $\qquad$ $k=$ $\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Slope from $x=1$ to $x=3$
$\qquad$
$\qquad$
End behavior: As $x \rightarrow-\infty, y \rightarrow$

$$
x \rightarrow \infty, y \rightarrow
$$

$\qquad$
$\qquad$

Interval of Increase: $\qquad$
Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
Zeros: $\qquad$
Y-Intercept: $\qquad$
Rate of Change from $x=-4$ to $x=-2$
Domain: $\qquad$
Range: $\qquad$
End behavior: As $x \rightarrow-\infty, y \rightarrow$

$$
x \rightarrow \infty, y \rightarrow
$$

Interval of Decrease: $\qquad$

Write the equation of the graph in vertex form:
4.

AOS: $\qquad$ ; Vertex: $\qquad$
5.

AOS: $\qquad$ ; Vertex: $\qquad$
6. $\qquad$
AOS: $\qquad$ ; Vertex: $\qquad$

Convert the following from vertex form to standard form:
7. $f(x)=-(x-2)^{2}+1$
8. $y=4(x+3)^{2}-8$
9. Which is the graph of $y=-2(x-2)^{4}-4$ ?
a.

c.

d.

b.


