## Vertex Form Analysis Homework

For the following quadratic equations, identify all characteristics listed AND graph

1. $Y=-2(x-4)^{2}-1$

Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y - Intercept: $\qquad$
Rate of Change from $x=4$ to $x=6$
2. $Y=3(x+2)^{2}-5$

Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y - Intercept: $\qquad$
Rate of Change from $x=-4$ to $x=-3$
3. $Y=-(x-5)^{2}+4$

Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y - Intercept: $\qquad$
Rate of Change from $x=3$ to $x=4$


| $X$ | $Y$ |
| :--- | :--- |
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4. $y=2(x-4)^{2}+2$
$a=$ $\qquad$ $\mathrm{h}=$ $\qquad$ $k=$ $\qquad$
Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y - Intercept: $\qquad$
Rate of Change from $x=3$ to $x=5$

$$
\begin{aligned}
& \text { 5. } y=-3(x+6)^{2}+8 \\
& a= h=
\end{aligned}
$$

Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y-Intercept: $\qquad$




Rate of Change from $x=-8$ to $x=-5$

$$
\text { 6. } \begin{aligned}
y & =(x-7)^{2}-5 \\
h & =\quad k=
\end{aligned}
$$

$a=$ $\qquad$
Opens: up or down
Vertex: $\qquad$
Max or Min: $\qquad$
Axis of symmetry: $\qquad$
X-Intercept: $\qquad$
Y-Intercept: $\qquad$

| $X$ | $Y$ |
| :--- | :--- |
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Rate of Change from $x=7$ to $x=9$

