Name_____ Date_____ Pd____

Alg2: **REVIEW** of GRAPHING QUADRATIC FUNCTIONS IN STANDARD & VERTEX FORM **HOMEWORK**

For each of the following find the vertex, axis of symmetry, x-intercept, y-intercept, maximum or minimum and it's value, domain and range using the specified notation.

1. $f(x) = 2(x-3)^2 - 5$

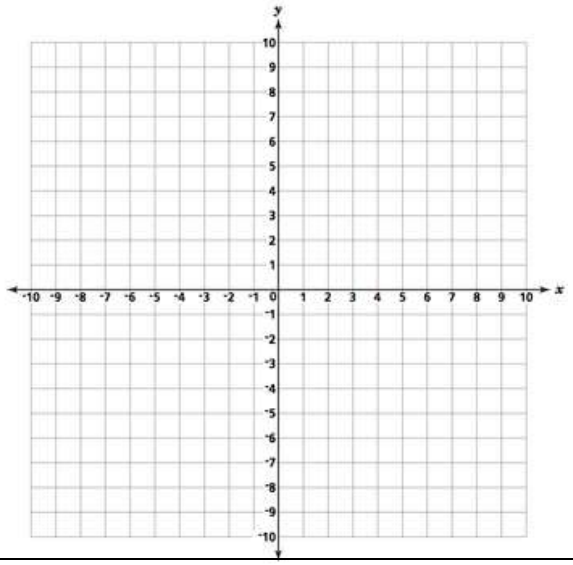
vertex _____ AOS _____

y-inter _____

maximum or minimum? Value _____

domain _____ range _____
interval notation

domain _____ range _____
set notation



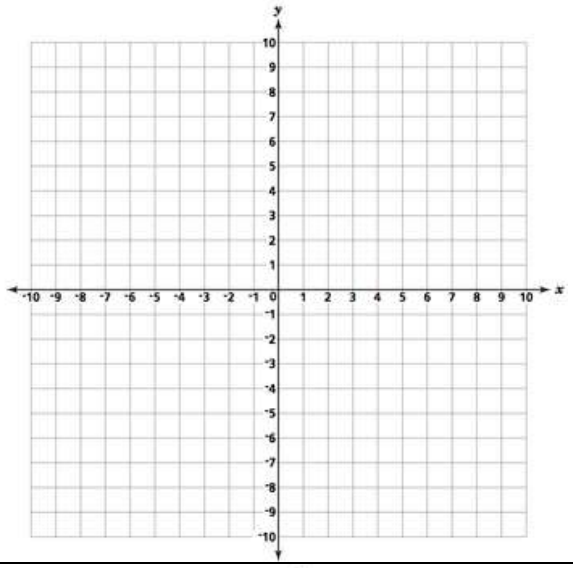
2. $f(x) = -x^2 - 2x + 2$

vertex _____ AOS _____

y-inter _____

maximum or minimum? Value _____

domain _____ range _____
interval notation



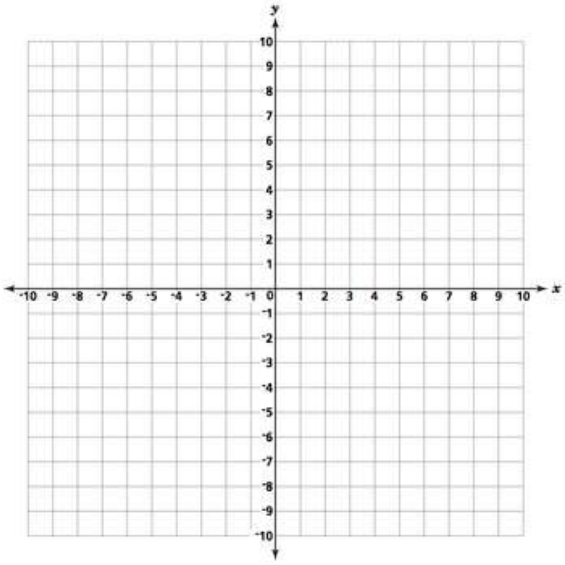
3. $f(x) = -x^2 + 3$

vertex _____ AOS _____

y-inter _____

maximum or minimum? Value _____

domain _____ range _____
set notation



Write the quadratic equation in standard form: $y = ax^2 + bx + c$.

4. f(x) = -3(x – 5)(x + 2)	5. f(x) = 2(x – 9)^2 + 5
Write the quadratic equation in vertex form: $y = a(x - h)^2 + k$. State the vertex.	
6. $y = x^2 - 12x + 46$	7. $y = x^2 + 16x + 71$

Answers:

1) V: $(3, -5)$
   AOS: $x = 3$
   y-int: $(0,13)$
   min $= -5$
   Interval: D: $(-\infty, \infty)$ R: $[-3, \infty)$
   Set: D: $\{x|x \in R\}$ R: $\{y|y \geq -5\}$

2) V: $(-1,3)$
   AOS: $x = -1$
   y-int: $(0,2)$
   max $= 3$
   Interval: D: $(-\infty, \infty)$ R: $(-\infty, 3]$

3) V: $(0,3)$
   AOS: $x = 0$
   y-int: $(0,3)$
   max $= 3$
   Set: D: $\{x|x \in R\}$ R: $\{y|y \leq 3\}$

4) $f(x) = -3x^2 + 9x + 30$
5) $f(x) = 2x^2 - 36x + 167$
6) y = (x – 6)^2 + 10 V: $(6,10)$
7) y = (x + 8)^2 + 7 V: $(-8,7)$