Name _____ Date _____

LESSON 9.2

Challenge Practice

For use with the lesson "Graph $y = ax^2 + bx + c$"

In Exercises 1–5, write the function of the form $y = ax^2 + bx + c$ whose graph passes through the three given points.

1. (0, 1), (1, 0), (2, 3)
2. (1, 2), (0, 4), (−1, 4)
3. (−1, 6), (1, 2), (3, 6)
4. (2, 0), (1, 1), (0, 4)
5. (1, 12), (2, 9), (3, 0)

In Exercises 6–10, use the given information to write a function of the form $f(x) = ax^2 + bx + c$.

6. $f(x)$ has an axis of symmetry at $x = \frac{3}{2}$, x-intercepts at $x = 1$ and $x = 2$, and a y-intercept at $y = 2$.
7. $f(x)$ has an axis of symmetry at $x = \frac{3}{4}$, x-intercepts at $x = -1$ and $x = \frac{5}{2}$, and a y-intercept at $y = 5$.
8. $f(x)$ has an axis of symmetry at $x = -\frac{5}{4}$, x-intercepts at $x = -\frac{7}{2}$ and $x = 1$, and a y-intercept at $y = -7$.
9. $f(x)$ has an axis of symmetry at $x = \frac{5}{12}$, x-intercepts at $x = \frac{1}{3}$ and $x = \frac{1}{2}$, and a y-intercept at $y = -1$.
10. $f(x)$ has an axis of symmetry at $x = \frac{19}{6}$, x-intercepts at $x = \frac{1}{3}$ and $x = 6$, and a y-intercept at $y = 6$.