# Lesson 11.7 Practice: Vertex Form and Quadratic Models

School Launch · Algebra I · Unit 11: Quadratic Functions and Equations · Worksheet A

No calculator

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

**1.** Write $y = -2x^2 + 8x - 16$ in vertex form. EASY

**2.** Write $y = -x^2 + 2x - 7$ in vertex form. EASY

**3.** Write $y = 3x^2 + 30x + 79$ in vertex form. EASY

**4.** Write $y = -x^2 + 8x - 18$ in vertex form. MEDIUM

**5.** Write $y = -x^2 + 4x - 10$ in vertex form. MEDIUM

**6.** Write $y = 2x^2 - 4x + 5$ in vertex form. MEDIUM

**7.** Write $y = -3x^2 - 12x - 11$ in vertex form. MEDIUM

**8.** Lydia tosses a ball upward from 16 ft at 56 ft/s, so $h = -16t^2 + 56t + 16$. When is it highest, and how high does it go? HARD

**9.** Isaac tosses a ball upward from 5 ft at 32 ft/s, so $h = -16t^2 + 32t + 5$. When is it highest, and how high does it go? HARD

**10.** Naomi tosses a ball upward from 10 ft at 40 ft/s, so $h = -16t^2 + 40t + 10$. When is it highest, and how high does it go? HARD