Lesson 3.1 Practice: Quadratic Functions and Their Three Forms

School Launch · Algebra II · Unit 3: Quadratic Functions and Complex Numbers · Worksheet A

Calculator for decimals

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 $y = x^2 + 8x + 18$ in vertex form. EASY

2. For $y = 2x^2$: does it open up or down, and what is y at $x = -2, -1, 0, 1, 2$? EASY

3. Write $y = -x^2 + 10x - 20$ in vertex form. EASY

4. Find the vertex and the axis of symmetry of $y = x^2 - 2x - 5$. MEDIUM

5. Write $y = x^2 - 6x + 8$ in vertex form. MEDIUM

6. Find the vertex and the axis of symmetry of $y = 3x^2 + 24x + 44$. MEDIUM

7. Write $y = -3x^2 - 12x - 10$ in vertex form. MEDIUM

8. Find the vertex and the axis of symmetry of $y = 2x^2 + 4x + 10$. HARD

9. Lydia tosses a ball upward from 19 ft at 24 ft/s, so $h = -16t^2 + 24t + 19$. When is it highest, and how high does it go? HARD

10. Find the vertex and the axis of symmetry of $y = x^2 + 8$. HARD