PEP Grade 9 Math — Unit 22: Quadratic Functions • Unit Test (Basic)

PEP · Grade 9 · Term 1 · Mathematics · Unit Test · Basic

AI-generated practice paper · original study aid, not an official examination paper · 40 questions · 100 points

Name: _____ Date: _____ Score: _____

Answer all questions. This paper is worth 100 points. Show your working where appropriate.

I. Multiple Choice

1. Which of the following is a quadratic function?
   A. y = 3x + 2
   B. y = x^2 - 5x + 6
   C. y = 1/x
   D. y = |x|

2. What is the vertex of the parabola y = (x - 3)^2 + 4?
   A. (3, 4)
   B. (-3, 4)
   C. (3, -4)
   D. (-3, -4)

3. If a quadratic function has a maximum value, what can be said about the coefficient of x^2?
   A. It is positive
   B. It is zero
   C. It is negative
   D. It is undefined

4. What is the axis of symmetry for y = x^2 - 8x + 15?
   A. x = 4
   B. x = 5
   C. x = 8
   D. x = -4

5. How many real roots does the equation x^2 - 6x + 9 = 0 have?
   A. 0
   B. 1
   C. 2
   D. 3

6. Which point lies on the graph of y = (x + 2)^2 - 1?
   A. (-2, -1)
   B. (0, 0)
   C. (2, 3)
   D. (-1, 1)

7. The graph of y = -2x^2 + 4x - 1 opens in which direction?
   A. Upward
   B. Downward
   C. Left
   D. Right

8. What is the y-intercept of y = x^2 - 5x + 6?
   A. 0
   B. 5
   C. 6
   D. -6

9. Which expression represents a quadratic function in standard form?
   A. y = 2(x - 1)(x + 3)
   B. y = 3x^2 - 4x + 1
   C. y = x^2 + 5
   D. y = (x - 2)^2

10. If the vertex of a parabola is at (1, -3) and it passes through (2, -2), which equation could represent it?
    A. y = (x - 1)^2 - 3
    B. y = 2(x - 1)^2 - 3