PEP Grade 9 Math — Unit 26: Inverse Proportional Functions · Unit Test (Basic)

PEP · Grade 9 · Term 2 · 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 equations represents an inverse proportion relationship between y and x?
   A. y = 3x + 2
   B. y = 5/x
   C. y = x^2
   D. y = x/5

2. If y is inversely proportional to x, and when x = 4, y = 6, what is the value of y when x = 12?
   A. 2
   B. 3
   C. 4
   D. 8

3. The graph of y = 10/x lies in which quadrants?
   A. Quadrants I and III
   B. Quadrants I and II
   C. Quadrants II and IV
   D. Quadrants III and IV

4. Which of the following functions has a hyperbolic graph with branches in Quadrants I and III?
   A. y = -3/x
   B. y = 7/x
   C. y = -x^2
   D. y = 2x + 1

5. If y = k/x and k > 0, what happens to y as x increases in the positive direction?
   A. y increases
   B. y decreases
   C. y stays constant
   D. y becomes negative

6. Which point lies on the graph of y = 12/x?
   A. (2, 6)
   B. (3, 4)
   C. (4, 3)
   D. All of the above

7. The product of x and y is always 15. Which equation describes this relationship?
   A. y = 15x
   B. y = 15/x
   C. x = 15/y
   D. Both B and C

8. In the function y = 8/x, what is the value of y when x = -2?
   A. -4
   B. -2
   C. 2
   D. 4

9. Which of the following best describes the behavior of y as x approaches 0 from the positive side in y = 6/x?
   A. y approaches 0
   B. y approaches infinity
   C. y approaches negative infinity
   D. y remains constant

10. What is the horizontal asymptote of the graph of y = 10/x?