"Undefined" Example GED Test Questions

1 For which of the following values is this expression undefined?

$$\frac{x^2 - 5x + 6}{x - 3}$$

a. 3
b. 9
c. 6
d. 0

Answer: a If x = 3, the denominator is 3 – 3 =0 Division by zero is undefined.

2 Evaluate:

$$\sqrt{-9}$$

Answer: undefined. The square root of a negative number is undefined.

3 For what values of x is this expression undefined?

$$\sqrt{x-4}$$

Answer: x < 4 If x = 4, the expression under the root symbol is 4 – 4 = 0. But, if x is any value less than 4, the expression becomes a negative number. *The square root of a negative number is undefined.*

4 What is the value of $\sqrt[3]{-27}$?

a. Undefined
b. 3
c. -3
d. 9

Answer: c, because (-3)(-3)(-3) = -27
This is a *trick question* because a student might just see the negative under the root symbol and think "undefined" – *but this is a cube root, not a square root*.