Answer on Question #56374 – Math – Algebra

1. If f(x) = x^2 + 3x + 5 , what is f(3 + h)?

A: (3 + h)^2 + 8 + h

B: h^2 + 9h + 23

C: (x^2 +3x +5)(3 + h)

D: h^2 + h + 23

Solution

$$\boldsymbol{f(x) = x^2 + 3x + 5 \rightarrow \quad f(3 + h) = (3 + h)^2 + 3(3 + h) + 5 = 23 + 9h + h^2.}$$

Answer: B.

2. Which of the following is true about the function shown below?

$$\frac{1}{\sqrt{x-6}}$$

A: Its domain is (6, ∞) and its range is (- ∞ , ∞)

B: Its domain is (6, ∞) and its range is (- ∞ ,0) U(0, ∞)

C: Its domain is (6, ∞) and its range is (0, ∞)

D: Its domain is (- ∞ , 0) and its range is (0, ∞)

Solution

$$\boldsymbol{\frac{1}{\sqrt{x-6}},\ domain\ (6,\infty), range\ (0,\infty).}$$

Answer: C.

3. Which of the following statements are true regarding functions. There are multiple right answers. Check all that apply.

A function is a relation in which multiple values of the input variable are paired with at least one of the output variable

A sequence is a function whose domain is the set of rational numbers.

The vertical line test may be used to determine whether a relation is a function

The horizontal line test may be used to determine whether a function is one to one.

Solution

The vertical line test may be used to determine whether a relation is a function

The horizontal line test may be used to determine whether a function is one to one.