

Solution College Algebra Quiz 6a

Name _____ Score _____ /10

Please Print Clearly

Write complete sentences.

1. Recall the sequence τ (called tau) is defined by the rule $\tau(n)$ is the number of positive divisors of n .

a) What is the domain of the sequence τ ?

The domain of a sequence is the set of natural numbers.

b) Calculate $\tau(18)$.

Answer

The positive divisors of 18 are: 1, 2, 3, 6, 9, 18

There are 6 positive divisors of 18.

Therefore $\tau(18) = 6$

c) Verify that $n = 6$ is a solution to the equation $\tau(n) = 4$.

The positive divisors of 6 are 1, 2, 3, and 6

There are 4 positive divisors of 6 so that $\tau(6) = 4$.

Because 6 makes the equation true, it is a solution of the equation.

d) What is the range value associated with 7 by the function τ ?

$\tau(7) = 2$ because 7 has only the two positive divisors 1 and 7.

e) T **F** The graph of τ is a line.