

A. 4.0

B. 4.5

C. 1.5

D. None of these

Question: Let $Y = \text{minimum of } \{(x+2), (3-x)\}$. What is the maximum value of Y for $0 \leq x \leq 1$?

(a) 1.0

(b) 1.5

(c) 3.1

(d) 2.5

Q: If $\log_{10}(x^2 - 6x + 45) = 2$. Find the value of x ?

A) 6, 9

B) 9, -5

C) 10, 5

D) 11, -5

A small Delhi based company has a policy that it will sell X items at SP of Rs. $(50 - \frac{X}{120})$ per item. The cost of producing X items is Rs. $(\frac{X}{9} + 56)$. Find the production level X for maximum profit. Assume that all that is produced is sold.

1. 2,994

2. 1,993

3. 3,992

4. 994

Question: In Indore, Annapurna area has 1000 telephone subscribers and government collects fixed charges of Rs. 280 per month from each subscriber. The government proposes to increase the tariff and if it is forecasted for each rupee increase, there will be an equivalent amount of subscribers discontinuing. So, what increase will bring maximum revenue to the government?

1. Rs. 1140

2. Rs. 860

3. Rs. 1720

4. Rs. 1000

Question: If $a + b + c = 30$, what is the maximum value of $(a + 3) * (b - 2) * (c + 5)$?

1. 1,000

2. 2,197

3. 1,331

4. 1,728

When the curves $y = \log_{10} x$ and $y = x^{-1}$ are drawn in the $x - y$ plane, how many times do they intersect for the values $x \geq 1$?

Let $f(x) = 7x^3 + 23x + 18$. If the value of $f(x + 8) - f(x + 7) - f(x + 6) + f(x + 5) - f(x + 4) + f(x + 3) + f(x + 2) - f(x + 1)$ is a constant, then find that value.