
In the diagram above, |PQ| = |QR|, |PS| = |RS|, ∠QSR = 30° and ∠PQR = 80°. Find ∠SPQ.

- 15°
- 25°
- 40°
- 50°
- 55°

**Answer Details**

oin PR

QRP = QPR

= 180 - 80 = $^{100}/_{20} = 50^{o}$

SRP = SPR

= 180 - 30 = $^{150}/_{2} = 75^{o}$

∴ SPQ = SPR - QPR

= 75 - 50 = $25^{o}$

Given that $1/2 \log_{10} P = 1$, find the value Of P

- $10^4$
- $10^3$
- $10^2$
- $10^1$
- $10^{-1}$



**Answer Details**

$1/2\log_{10}P$

$\log_{10}P^{1/2} = 1$

$P^{1/2} = 10$

$P = 10^2$

Obi borrows ₦10.00 at 3% per month simple interest and repays ₦8.00 after 4 months, how much does he still owe?

- ₦10.80
- ₦10.65
- ₦2.80
- ₦2.67

Find the two values of y which satisfy the simultaneous equation $3x + y = 8$, $x^2 + xy = 6$

- -1 and 5
- -5 and 1
- 1 and 5
- 1 and 1

Fifty boxes each of 50 bolts were inspected for the number which were defective. The following was the result:

| No. defective per box | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|
| No. of boxes | 2 | 7 | 17 | 10 | 8 | 6 |

Find the percentage of boxes containing at least 5 defective bolts each.



- 96 ✓
- 94
- 92
- 90

**Answer Details**

% of boxes containing at least 5 defective bolts each

$$= \frac{7+17+10+8+6}{50}$$

$$= \frac{48}{50} \times \frac{100}{1}$$

= 96%

Simplify $\cos^2 x (\sec^2 x + \sec^2 x \tan^2 x)$

- tan x
- tanx secx
- $\frac{1+\tan^2 x}{\sec^2 x}$ ✓
- $\operatorname{cosec}^2 x$



**Answer Details**

$\cos^2 x (\sec^2 x + \sec^2 x \tan^2 x)$

$= \frac{\cos^2 x}{\cos^2 x} \times \frac{\cos^2 x \sin^2 x}{\cos^2 x \cos^2 x}$

$= \frac{1+\sin^2 x}{\cos^2 x}$

$= \frac{1+\tan^2 x}{\sec^2 x}$

What is the product of $\frac{27}{5^1}(3)^{-3}$ and $\frac{(1)^{-1}}{5}$?

- 5
- 3
- 1 ✓
- $\frac{1}{25}$



**Answer Details**

$$\frac{27}{5^1}(3)^{-3} \times \frac{(1)^{-1}}{5} = \frac{27}{5} \times \frac{1}{3^3} \times \frac{1}{\frac{1}{5}}$$

$$= \frac{27}{5} \times \frac{1}{27} \times \frac{5}{1}$$

$$= 1$$

Solve the equation (x - 2) (x - 3) = 12

- 2, 3
- 3, 6
- -1, 6 ✓
- 1, -6



**Answer Details**

(x - 2) (x - 3) = 12

$x^2$ - 3x - 2x + 6 = 12

$x^2$ - 5x - 6 = 0

(x - 1)(x - 6) = 0

x = -1 or 6