



In the diagram above, $|PQ| = |QR|$, $|PS| = |SR|$, $\angle PSR = 30^\circ$ and $\angle PQR = 80^\circ$. Find $\angle SPQ$.

☐ 15°

☒ 25°

☐ 40°

☐ 50°

☐ 55°

Answer Details

oin PR

$$\angle QRP = \angle QPR$$

$$= 180 - 80 = \frac{100}{2} = 50^\circ$$

$$\angle SRP = \angle SPR$$

$$= 180 - 30 = \frac{150}{2} = 75^\circ$$

$$\therefore \angle SPQ = \angle SPR - \angle QPR$$

$$= 75 - 50 = 25^\circ$$

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

☐ 10^4

☐ 10^3

☒ 10^2

☐ 10^1

☐ 10^{-1}

Answer Details

$$\frac{1}{2} \log_{10} P$$

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

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

$$P = 10^2$$

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Obi borrows ₦10.00 at 7% 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
-

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

☐ $\tan x$

☐ $\tan x \sec x$

☒ $\frac{1+\tan^2 x}{\sec^2 x}$ ✓

☐ $\operatorname{cosec}^2 x$

Answer Details

$$\begin{aligned} & \cos^2 x (\sec^2 x + \sec^2 x \tan^2 x) \\ &= \frac{\cos^2 x}{\cos^2 x} \times \frac{\cos^2 x \sin^2 x}{\cos^2 x \cos^2 x} \\ &= \frac{1+\sin^2 x}{\cos^2 x} \\ &= \frac{1+\tan^2 x}{\sec^2 x} \end{aligned}$$

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

☐ 5

☐ 3

☒ 1 

☐ $\frac{1}{25}$

Answer Details

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

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

$$= 1$$

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

☐ 2, 3

☐ 3, 6

☒ -1, 6

☐ 1, -6

Answer Details

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

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

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

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

$$x = -1 \text{ or } 6$$

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