

Question 1: The angle of elevation of a ladder leaning against a wall is 60 degrees and the foot of the ladder is 4.6 m away from the wall.

What is the width of the Ladder?

Answer: The distance from wall to ladder and the ladder will make cosine angle. So, $\cos 60^\circ = 4.6/\text{width of ladder}$.
 $1/2 = 4.6/\text{ladder width}$. Hence ladder width = 9.2m.

Question 2: How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest?

Answer : Given, Principal = Rs. 450, Rate of interest = 4.5% and simple interest = Rs. 81

Simple interest = $PRT/100$

☐ $81 = 450 \times 4.5 \times T/100$

☐ $81 \times 100 = 450 \times 4.5 \times T$

☐ $T = 4 \text{ years}$

Question 3: Rajeev buys good worth Rs. 6650. He gets a rebate of 6% on it. After getting the rebate, he pays sales tax @ 10%.

Find the amount he will have to pay for the goods.

Answer : Rebate = 6%, MP = Rs. 6650

$SP = 94\% \times 6650 = \text{Rs. } 6251$

Sales tax = 10%

Total amount Rajeev pays = $10\% \times 6251 + 6251 = \text{Rs. } (625.1 + 6251) = \text{Rs. } 6876.10$.

Question 4: A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg.

His profit percentage:

Answer : $=(S.P - C.P)/C.P \times 100\%$

$=(1680 - 1600)/1600 \times 100\%$

$= 80/1600 \times 100\%$

$= 1/20 \times 100\%$

$= 5\%$

Question 5 : what will be the day of the week 15th August 2010?

Answer : Sunday.

Question 6 : find the odd man out 41, 43, 47, 53, 61, 71, 73, 81?

Answer : 81 (non prime number)

Question 7 : The sum of the present ages of a father and his son is 60 years.

Six years ago father's age was five times the age of the son. After six years son's age will be

Answer : Then, present age of father is $(60 - x)$.

According to the question,

☐ $(60 - x) - 6 = 5(x - 6)$

☐ $54 - x = 5x - 30$

☐ $54 + 30 = 5x + x$

☐ $84 = 6x$

☐ $x = 84/6$

☐ $x = 14$

☐ Son's age after 6 years = $(x + 6)$ years
 $= (14 + 6)$ years

=20years.

Question 8: How many times in a day, are the hands of a clock in straight line but opposite in direction?

Answer : 22 Times.

Question 9: A man walked diagonally across a square lot.

Approx, what was the percent saved by not walking along the edges?

Answer : Distance along edges = $2a$

a = side of square lot

Distance along diagonal = $a\sqrt{2}$

Percentage saved = $\frac{(2a - a\sqrt{2})}{2a} \times 100$

= 29.28%

Question 10 : From a pack of 52 playing cards, two cards are drawn together at random.

Calculate the probability of both the cards being the Kings.

Answer : Two cards can be drawn from a pack of 52 playing cards in ${}^{52}C_2$ ways,

i.e., $\frac{52 \times 51}{2} = 1326$ ways

The event that two kings appear in a single draw can appear in

4C_2 ways, i.e., 6 ways,

□ The probability that the two cards drawn from a pack of 52 cards are kings =

$\frac{6}{1326} = \frac{1}{221}$