Exercise 9C

Q14

Answer :

Let the present age of Rekha be x years.
As Mrs. Goel is 27 years older than Rekha, the present age of Mrs. Goel will be (x + 27) years.
After 8 years:
Rekha's age = (x + 8) years
Mrs. Goel's age = (x + 27 + 8)
= (x + 35) years

According to the question:
(x + 35) = 2(x + 8)
or, x + 35 = 2 × x + 2 × 8 [On expanding the brackets]
or, x + 35 = 2x + 16
or, 35 − 16 = 2x − x [Transposing 16 to the L.H.S. and x to the R.H.S.]
or, x = 19
∴ Present age of Rekha = **19 years**
Present age of Mrs. Goel = x + 27
= 19 + 27
= **46 years**

Q15

Answer :

Let the present age of the son be x years.
As the man is 4 times as old as his son, the present age of the man will be (4x) years.
After 16 years:
Son's age = (x + 16) years
Man's age = (4x + 16) years

According to the question:
(4x + 16) = 2(x + 16)
or, 4x + 16 = 2 × x + 2 × 16 [On expanding the brackets]
or, 4x + 16 = 2x + 32
or, 4x − 2x = 32 − 16 [Transposing 16 to the R.H.S. and 2x to the L.H.S.]
or, 2x = 16
or, $\frac{2x}{2} = \frac{16}{2}$ [Dividing both the sides by 2]
or, x = 8
∴ Present age of the son = **8 years**
Present age of the man = 4x = 4 × 8

Q16

Answer :

Let the present age of the son be x years.
As the man is 3 times as old as his son, the present age of the man will be (3x) years.

5 years ago:
Son's age = (x − 5) years
Man's age = (3x − 5) years

According to the question:
(3x − 5) = 4(x − 5)
or, 3x − 5 = 4 × x − 4 × 5 [On expanding the brackets]
or, 3x − 5 = 4x − 20
or, 20 − 5 = 4x − 3x [Transposing 3x to the R.H.S. and 20 to the L.H.S.]
or, x = 15
∴ Present age of the son = **15 years**
Present age of the man = 3x = 3 × 15
= **45 years**

Q17

Answer :

Let the present age of Fatima be x years.

After 16 years:
Fatima's age = (x + 16) years

According to the question:
x + 16 = 3(x)
or, 16 = 3x − x [Transposing x to the R.H.S.]
or, 16 = 2x
or, $\frac{2x}{2} = \frac{16}{2}$ [Dividing both the sides by 2]
or, x = 8
∴ Present age of Fatima = 8 years

********** END **********