EXERCISE 8D

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1. 28% of a number is 84. Find the number.
Solution:

Consider x as the number
28% of x = 84
We can write it as
28/100 × x = 84
By further calculation
28x = 84 × 100
So we get
x = 300

2. Every month, a man spends 72% of his income and saves ₹ 12,600. Find:
(i) his monthly income
(ii) his monthly expenses
Solution:

Consider ₹ x as the total salary of the man
Amount spent by man = 72/100 × x
Amount saved by man = ₹ 12,600

(i) His monthly income
x = 72/100 x + 12600
By further calculation
x = (72x + 1260000)/ 100
So we get
100x – 72x = 1260000
28x = 1260000
Here
x = 1260000/28
x = 45000

(ii) His monthly expenses = 72/100 × 45000
So we get
= 72 × 450
= ₹ 32, 400

3. 1800 boys and 900 girls appeared for an examination. If 42% of the boys and 30% of the girls passed, find
(i) number of boys passed
(ii) number of girls passed
(iii) total number of students passed
(iv) number of students failed
(v) percentage of students failed.
Solution:

(i) Number of boys passed = 42/100 × 1800 = 756

(ii) Number of girls passed = 30/100 × 900 = 270

(iii) Total number of students passed = 756 + 270 = 1026

(iv) Number of students failed = (1800 + 900) – 1026
By further calculation
= 2700 – 1026
= 1674

(v) Percentage of students failed = 1674/2700 × 100 = 62%

4. 6 ¼ % of a weight is 0.25 kg. What is 45% of this weight?
Solution:

Consider x kg as the required weight
6 ¼/100 × x = 0.25
We can write it as
25/4 × 1/100 × x = 25/100
By further calculation
25x = 25 × 4 = 100
x = 100/25 = 4 kg

So 45% of this weight = 45/100 × 4 = 4/5 = 1.8 kg

5. An alloy consists of 13 parts of copper, 7 parts of zinc and 5 parts of nickel. Find the percentage of copper in the alloy.
Solution:

Here the sum of all parts = 13 + 7 + 5 = 25
Percentage of copper = 13/25 × 100 = 52%
Percentage of zinc = 7/25 × 100 = 28%
Percentage of nickel = 5/25 × 100 = 20%

6. An ore contains 15% of iron. How much ore will be required to get 36 kg of iron?
Solution:

Consider x kg as the amount of ore
15/100 × x = 36
We can write it as
15x = 3600
So we get
x = 3600/15 = 240 kg

7. Find the number which when increased by 6% becomes 424.
Solution:

Consider x as the required number
x + (6/100 × x) = 424
By further calculation
x + 3x/50 = 424

By taking LCM
(50x + 3x)/ 50 = 424
So we get
53x = 424 × 50
x = (424 × 50)/ 53
x = 400

8. Find the number which when decreased by 15% becomes 1360.
Solution:

Consider x as the required number
x – (15/100 × x) = 1360
By further calculation
x – 3x/20 = 1360
Taking LCM
(20x – 3x)/ 20 = 1360
So we get
17x = 1360 × 20
x = (1360 × 20)/ 17 = 1600

9. The cost of an article decreased from ₹ 17,000 to 15,980. Find the percentage decrease.
Solution:

Decreased cost of article = 17000 – 15980 = ₹ 1020
So the percentage of decrease = 1020/17000 × 100 = 6%

10. Actual length of a rope is 22.5 m but it is wrongly measured as 21.6 m. Find the percentage error.
Solution:

Error measured = 22.5 – 21.6 = 0.9 m
So the percentage of error = 9/10 × 1/22.5 × 100
We get
= 9/10 × 10/225 × 100
= 4%