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* 1. Express the ratio 12:16 in its simplest form.

**Ans**; To simplify the ratio 12:16, divide both numbers by their greatest common divisor (GCD).

* The GCD of 12 and 16 is **4**.
* 12/4=3
* 16/4=4.

**Simplest form**: **3:4**.

1. Divide $120 in the ratio 2:3.

**Ans; To divide $120 in the ratio 2:3**

2+3=5

120/5=24 per part

2 x 24=48

3 x 24= 72

Final answer is 48:72

1. The ratio of cats to dogs in a pet shop is 4:7. If there are 28 dogs, how many cats are there?

**Ans**;

28/4= 7

4 x 4= 16

There are 16 cats in a pet shop.

1. If a person earns $240 for working 8 hours, what is the rate of pay per hour?

**Ans**:

Rate per hour= 240/8 =30

So, the rate of pay is $30 per hour.

1. Are the ratios 6:9 and 8:12 proportional?

**Ans**;

6/9= 2/3

8/12=2/3

Since both simplify to the same fraction, yes, 6:9 and 8:12 are proportional.

1. If 3 shirts cost $45, how much would 5 shirts cost at the same rate?

**Ans**;

45/3=15

15 x 5=72

So, 5 shirts would cost $75 at the same rate.

7.If 5 pens cost $10, how much do 12 pens cost?

**Ans**;

10/2=5

2 × 12=24

So, 12 pens would cost $24.

8, A class has 18 boys and 12 girls. What is the ratio of boys to the total number of students?

**Ans** ; 18/30 = 3/5

The ratio is 3:5

9. Find 25% of 480.

**Ans**; 25/100 X 480 = 120

10. A jacket is sold for $150 after a 20% discount. What was the original price?

**Ans**; 0.8x = 150

X= 150/0.8= 187.5

The original price is 187.5

11. A salesperson earns a 5% commission on sales. If they sell goods worth $2,000, how much commission do they earn?

**Ans**; 5/100 × 2000=0.05

0.05×2000=100

The commission earned is $100.

12. if 60% of a number is 180, what is the original number?

**Ans**

0.16x=180

X=180/0.16=300

The original number is 300.

13. Find the simple interest on $1,200 at a rate of 5% per annum for 3 years.

**Ans**; 1200×5(3)/100=1800

1800/100= 180

The simple interest is $180.

14. A sum of $2,000 is invested at 10% per annum for 3 years compounded annually. Find the total amount.

**Ans**;

200(1+10/100)³ = 2000(1.1)³

2000 ×1331=2662

The total amount after 3 years is $2,662.

15. A loan of $2,000 is given for 2 years at a rate of 6% per annum. What is the total amount to be repaid at the end of the period?

**Ans**; 2000 × 6 (2)/100= 24000

24000/100=240

2000+240=2240

The total amount to be repaid is $2,240.