

Name:-Mohamud saed mohamud

### Answers

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

GCD of 12 and 16 is 4.

$$12 \div 4 = 3, 16 \div 4 = 4$$

Answer: 3:4

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

$$\text{Total parts} = 2 + 3 = 5$$

$$\text{One part} = \$120 \div 5 = \$24$$

$$2 \text{ parts} = 2 \times \$24 = \$48$$

$$3 \text{ parts} = 3 \times \$24 = \$72$$

Answer: \$48 and \$72

3. The ratio of cats to dogs is 4:7. If there are 28 dogs, how many cats are there?

$$7 \text{ parts} = 28 \text{ dogs} \quad ? \quad 1 \text{ part} = 28 \div 7 = 4$$

$$\text{Cats} = 4 \times 4 = 16 \text{ cats}$$

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

$$\$240 \div 8 \text{ hours} = \$30/\text{hour}$$

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

$$6:9 \text{ simplifies to } 2:3$$

$$8:12 \text{ simplifies to } 2:3$$

Answer: Yes, they are proportional

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

$$\text{One shirt} = \$45 \div 3 = \$15$$

$$5 \text{ shirts} = 5 \times \$15 = \$75$$

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

$$\text{One pen} = \$10 \div 5 = \$2$$

$$12 \text{ pens} = 12 \times \$2 = \$24$$

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

$$\text{Total students} = 18 + 12 = 30$$

$$\text{Ratio} = 18:30 = 3:5$$

Answer: 3:5

9. Find 25% of 480.

$$25\% = 25 \div 100 = 0.25$$

$$0.25 \times 480 = 120$$

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

$$\text{Selling price} = 80\% \text{ of original}$$

$$0.8 \times \text{original price} = \$150$$

$$\text{Original price} = \$150 \div 0.8 = \$187.50$$

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

$$5\% \text{ of } \$2000 = (5 \div 100) \times 2000 = \$100$$

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

$$0.6 \times \text{number} = 180$$

$$\text{Number} = 180 \div 0.6 = 300$$

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

$$\text{Simple Interest} = (P \times R \times T) / 100$$

$$= (1200 \times 5 \times 3) \div 100 = \$180$$

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

$$A = P(1 + r)^t$$

$$= 2000 \times (1.10)^3 = 2000 \times 1.331 = \$2662$$

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?

$$\text{Simple Interest} = (2000 \times 6 \times 2) \div 100 = \$240$$

$$\text{Total amount} = 2000 + 240 = \$2240$$