



ASSIGNMENT: PROJECT MANAGEMENT

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Course: Business Math

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

Divide both numbers by their greatest common divisor (4):

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

$$16 \div 4 = 4 \quad 16 \div 4 = 4$$

Simplest form: **3:4**

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

$$\text{Total parts} = 2 + 3 = 5 \quad 120 \div 5 = 24$$

$$\text{First part: } 2 \times 24 = 48 \quad 3 \times 24 = 72$$

$$\text{Second part: } 3 \times 24 = 72 \quad 2 \times 24 = 48$$

Divided amounts: **48 and 72**

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

Let the number of cats be x .

$$\text{Given } x:28 = 4:7 \quad 28x = 74$$

$$x = 74 \div 28 = 16 \quad x = 74 \div 28 = 16$$

Number of cats: **16**

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

$$\text{Rate per hour} = 2408 = 308240 = 30$$

Rate: **\$30/hour**

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

Simplify both ratios:

$$6:9 = 2:3 \quad 6:9 = 2:3 \text{ (dividing by 3)}$$

$$8:12 = 2:3 \quad 8:12 = 2:3 \text{ (dividing by 4)}$$

They are **proportional**.

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

$$\text{Cost per shirt} = 453 = 15345 = 15$$

$$\text{Cost for 5 shirts} = 5 \times 15 = 75 \quad 5 \times 15 = 75$$

Total cost: **\$75**

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

$$\text{Cost per pen} = 105 = 2510 = 2$$

$$\text{Cost for 12 pens} = 12 \times 2 = 24 \quad 12 \times 2 = 24$$

Total cost: **\$24**

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

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

$$\text{Ratio of boys to total students} = 18:30 \quad 18:30$$

Simplified ratio: **3:5**

9. Find 25% of 480.

$$25\% = 1425\% = 41$$

$$14 \times 480 = 120 \quad 41 \times 480 = 120$$

Result: **120**

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

Let the original price be x .

After a 20% discount, the price is 80% of x :

$$0.8x = 150 \quad 0.8x = 150$$

$$x = 1500.8 = 187.5 \quad x = 0.8150 = 187.5$$

Original price: **\$187.50**

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

$$\text{Commission} = 5\% \times 2000 = 0.05 \times 2000 = 100 \quad 5\% \times 2000 = 0.05 \times 2000 = 100$$

Earnings: **\$100**

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

Let the number be x .

$$0.6x = 180$$

$$x = \frac{180}{0.6} = 300$$

Original number: **300**

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

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

$$SI = \frac{1200 \times 5 \times 3}{100} = 180$$

Interest: **\$180**

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

Compound Interest formula:

$$A = P(1 + \frac{R}{100})^T$$

$$A = 2000(1 + \frac{10}{100})^3 = 2000 \times 1.331 = 2662$$

Total amount: **\$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?

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

$$\text{Total repayment} = \text{Principal} + \text{Interest} = 2000 + 240 = 2240$$

Total amount: **\$2,240**