Alpha University

Faculty: Social work.

ID:424.

Name: Abdullahi Ibrahim Abdi.

Assignment of math's method.

1. Express the ratio 12:6 in its simplest form:

12:6 = 2:1

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

Total parts = 2 + 3 = 5

2 parts = (2/5) × 120 = $48

3 parts = (3/5) × 120 = $72

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

Let x = number of cats.

(4/7) = x / 28 ? x = (4 × 28) / 7 = 16 cats

4. A person earns $240 for working 8 hours. What is the rate of pay per hour?

240 ÷ 8 = $30 per hour

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

6/9 = 2/3, 8/12 = 2/3 ? Yes, they are proportional

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

1 shirt = 45 ÷ 3 = $15 ? 5 shirts = 5 × 15 = $75

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

1 pen = 10 ÷ 5 = $2 ? 12 pens = 12 × 2 = $24

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

Total students = 18 + 12 = 30 ? Ratio = 18:30 = 3:5

9. Find 25% of 480:

(25/100) × 480 = 120

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

Let original price = x

x - 0.2x = 150 ? 0.8x = 150 ? x = 150 ÷ 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?

(5/100) × 2000 = $100

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

Let the number = x ? 0.6x = 180 ? x = 180 ÷ 0.6 = 300

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

SI = P × R × T ÷ 100 = 1200 × 5 × 3 ÷ 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(1 + 0.10)^3 = 2000(1.1)^3 = 2000 × 1.331 = $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?

Simple Interest = 2000 × 6 × 2 ÷ 100 = $240

Total amount = 2000 + 240 = $2,240

Thanks.