

ALPHA UNIVERSITY BORAMA

Assignment of math's methods

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The assignment

individual assignment the assignment ...30 marks submission date 05/05/2025

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

$$? 12:16 = 3:4$$

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

$$? \$120 \div (2+3) = \$24 \text{ per part}$$

$$? 2 \text{ parts} = \$48, 3 \text{ parts} = \$72$$

Answer: \$48 and \$72

3. Ratio of cats to dogs is 4:7, dogs = 28

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

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

4. \$240 for 8 hours, rate per hour

$$? \$240 \div 8 = \$30 \text{ per hour}$$

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

$$? 6/9 = 2/3; 8/12 = 2/3$$

Yes, they are proportional

6. 3 shirts cost \$45, so 5 shirts cost?

$$? 1 \text{ shirt} = \$15; 5 \text{ shirts} = 5 \times \$15 = \$75$$

7. 5 pens cost \$10, 12 pens cost?

? $1 \text{ pen} = \$2$; $12 \text{ pens} = 12 \times \$2 = \$24$

8. Class: 18 boys, 12 girls ? Total = 30

? Ratio of boys to total = $18:30 = 3:5$

9. Find 25% of 480

? $0.25 \times 480 = 120$

10. Jacket sold for \$150 after 20% discount

? Let original price = x

? $x - 0.2x = 150$? $0.8x = 150$? $x = 150 \div 0.8 = \$187.50$

11. 5% commission on \$2000

? $0.05 \times 2000 = \$100$

12. 60% of a number is 180

? $0.6x = 180$? $x = 180 \div 0.6 = 300$

13. Simple interest: \$1200, 5% per annum, 3 years

? $SI = (P \times R \times T) / 100 = (1200 \times 5 \times 3) / 100 = \180

14. Compound interest: \$2000, 10% p.a., 3 years

? $A = P(1 + r)^t = 2000(1.10)^3 = 2000 \times 1.331 = \2662

? $CI = 2662 - 2000 = \$662$

15. Loan: \$2000, 6% p.a., 2 years, simple interest

? $SI = (2000 \times 6 \times 2) / 100 = \240

? Total repayment = $2000 + 240 = \$2240$