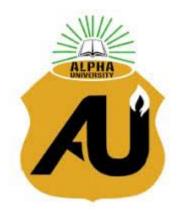
ALPHA UNIVERSITY BORAMA.

Assignment of math's methods



faculty: EMS

Department: project management. ID ...505

Name: Adan Abdikadir Hassan Individual assignment.... 30 marks

Submission date 05-05-2025

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

Divide both terms by the GCD (4):

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

Answer: 3:4

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

Total parts =
$$2 + 3 = 5$$

Each part =
$$$120 \div 5 = $24$$

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

3 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?

Each part =
$$28 \div 7 = 4$$

$$Cats = 4 \times 4 = 16$$

Answer: 16 cats

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

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

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 for 5 shirts?

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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?
One pen = $10 \div 5 = $2
12 \text{ pens} = 12 \times \$2 = \$24
8. 18 boys and 12 girls — what's the ratio of boys to total students?
Total = 18 + 12 = 30
Ratio = 18:30 = divide by 6 = 3:5
9. Find 25% of 480:
25\% = 25/100 = 0.25
0.25 \times 480 = 120
10. Jacket sold for $150 after 20% discount. Original price?
Let original price = x
After 20% discount: x - 0.20x = 0.80x = 150
x = 150 \div 0.80 = $187.50
11. 5% commission on $2,000 sales:
5% of 2000 = 0.05 \times 2000 = $100
12. 60% of a number is 180. Find the number:
Let number = x
0.60x = 180
x = 180 \div 0.60 = 300
13. Simple Interest on $1,200 at 5% for 3 years:
SI = (P \times R \times T)/100 = (1200 \times 5 \times 3)/100 = $180
14. Compound Interest on $2,000 at 10% for 3 years:
Amount = P(1 + r/100)^t = 2000(1 + 0.10)^3
= 2000 \times 1.1^3 = 2000 \times 1.331 = $2,662
15. Loan of $2,000 at 6% for 2 years — Total repayment:
SI = (2000 \times 6 \times 2)/100 = $240
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Total = 2000 + 240 = \$2,240