



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

Express the ratio 12:16 in its simplest form.

Simplest form of 12:16

Divide both by their GCD (4):

3:4

Divide \$120 in the ratio 2:3.

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Total parts = 5, each part = \$24

\$48 and \$72

The ratio of cats to dogs in a pet shop is 4:7. If there are 28 dogs, how many cats are there?

Cats if 28 dogs (ratio 4:7)

Proportion: $\left(\frac{4}{7} = \frac{x}{28} \right) ? \left(x = 16 \right)$

16 cats

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

Hourly rate for \$240 in 8 hours

$$\left(\frac{240}{8} = 30 \right)$$

\$30/hour

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

Proportional ratios 6:9 and 8:12

Both simplify to 2:3 ? Yes

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

Cost of 5 shirts (3 shirts = \$45)

Per shirt: \$15 ? 5 shirts: $(5 \times 15 = 75)$

\$75

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

Cost of 12 pens (5 pens = \$10)

Per pen: \$2 ? 12 pens: $(12 \times 2 = 24)$

\$24

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

Ratio of boys (18) to total (30)

Simplify 18:30 ? 3:5

Find 25% of 480.

25% of 480

$$\backslash(0.25 \times 480 = 120 \backslash)$$

120

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

Original price after 20% discount (\$150)

$$\backslash(0.8x = 150 \backslash) ? \backslash(x = 187.5 \backslash)$$

\$187.50

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

5% commission on \$2,000 sales

$$\backslash(0.05 \times 2000 = 100 \backslash)$$

\$100

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

Original number if 60% is 180

$$\backslash(0.6x = 180 \backslash) ? \backslash(x = 300 \backslash)$$

300

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

Simple interest: \$1,200 at 5% for 3 years

$$\backslash(1200 \times 0.05 \times 3 = 180 \backslash)$$

\$180

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

Compound amount: \$2,000 at 10% for 3 years

$$\backslash(2000 \times (1.1)^3 = 2662 \backslash)$$

\$2,662

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?

Total loan repayment: \$2,000 at 6% for 2 years (simple interest)

$$\$(2000 + (2000 \times 0.06 \times 2) = 2240 \)$$

\$2,240