



ALPHA UNIVERSITY BORAMA

Assignment of math's methods

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The assignment

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

12/4 to 16/4 is 3:4

Final Answer:

The simplest form of the ratio 12:16 is 3:4.

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

First add $2+3=5$ $2/5$ of $120= 48$

$3/5$ of $120= 72$

Final Answer:

The ratio is 48:72

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

Step 1: Set up the ratio

Cats:Dogs= 4:7

Step 2: Find the value of 1 part

$$28 \div 7 = 4$$

$$4 \times 4 = 16$$

Final Answer:

There are 16 cats.

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

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

Final Answer:

The rate of pay is \$30 per hour.

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

$$6 \text{ to } 9 = 2:3$$

$$8 \text{ to } 12 = 2:3$$

Final Answer:

Yes, 6:9 and 8:12 are proportional.

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

$$45 \div 3 = \$15 \text{ per shirt so } 5 \times 15 = \$75$$

Final Answer:

5 shirts would cost \$75.

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

$$10 \div 5 = \$2 \text{ per pen so } 2 \times 12 = \$24$$

Final Answer:

12 pens would cost \$24.

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

You're given:

18 boys

12 girls

$$18+12=30$$

$$18/6 : 30/6 = 3:5$$

Final Answer:

The ratio of boys to total students is 3:5.

9. Find 25% of 480

$$0.25 \times 480 = 120$$

Final Answer:

25% of 480 is 120.

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

$$\text{Original price} = 150 / 0.8 = \$187.5$$

Final Answer:

The original price was \$187.50.

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

$$0.05 \times \$2000 = \$100$$

Final Answer:

The salesperson earns \$100 in commission.

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

Step 1: Set up the equation

Let the unknown number be x.

$$60\% \times x = 180$$

Which is:

$$0.60 \times x = 180$$

$$x = 180 / 60 = 300$$

Final Answer:

The original number is 300.

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

$$\text{Simple Interest} = P \times R \times T$$

$$SI = 0.05 \times 1200 \times 3 = \$180$$

Final Answer:

The simple interest is \$180.

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

$$2000 \times 0.1 \times 1 = 2200$$

$$2200 \times 0.1 \times 1 = 2420$$

$$2420 \times 0.1 \times 1 = 2662$$

Final Answer:

The total amount after 3 years is \$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?

$$= 2000 \times 2 \times 0.06 = 240 \quad 2000 + 240 = \$2240$$

Final Answer:

The total amount to be repaid is \$2,240.