

**ALPHA UNIVERSITY BORAMA**  
**BUSINESS Methods Assignment**

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**1. Simplify the ratio 12:16**

To simplify, divide both terms by their greatest common divisor (4):

$$12 \div 4 = 3, \text{ and } 16 \div 4 = 4.$$

**Answer: 3:4**

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

$$\text{Sum of the parts} = 2 + 3 = 5$$

$$\text{Each part} = \$120 \div 5 = \$24$$

$$\text{First share: } 2 \times \$24 = \$48$$

$$\text{Second share: } 3 \times \$24 = \$72$$

**Answer: \$48 and \$72**

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

Take the number of cats be x.

$$4/7 = x/28 \text{ ? } x = (4 \times 28) \div 7 = 16$$

**Answer: 16 cats**

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

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

**Answer: \$30 per hour**

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

$$6:9 = 2:3, 8:12 = 2:3$$

**Answer: Yes, they are proportional**

**6. If 3 shirts cost \$45, how much do 5 shirts cost?**

Cost per shirt =  $\$45 \div 3 = \$15$

Cost of 5 shirts =  $5 \times \$15 = \$75$

**Answer:** \$75

**7. If 5 pens cost \$10, what do 12 pens cost?**

Cost per pen =  $\$10 \div 5 = \$2$

Cost of 12 pens =  $12 \times \$2 = \$24$

**Answer:** \$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 =  $18:30 = 3:5$

**Answer:** 3:5

**9. Find 25% of 480**

25% of 480 =  $(25/100) \times 480 = 120$

**Answer:** 120

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

Let original price = x

80% of x = \$150 ?  $x = 150 \div 0.8 = \$187.50$

**Answer:** \$187.50

**11. A salesperson earns 5% commission on \$2,000 sales.**

Commission = 5% of \$2,000 =  $(5/100) \times 2000 = \$100$

**Answer:** \$100

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

Let the number be x.

60% of x = 180 ?  $(60/100) \times x = 180$  ?  $x = 180 \div 0.6 = 300$

**Answer:** 300

**13. Find simple interest on \$1,200 at 5% per annum for 3 years**

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

**Answer:** \$180

**14. Compound interest on \$2,000 at 10% for 3 years**

$$\text{Amount} = 2000 \times (1 + 0.10)^3 = 2000 \times 1.331 = \$2,662$$

**Answer:** \$2,662

**15. Total repayment on a \$2,000 loan at 6% per annum for 2 years  
(Simple Interest)**

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

$$\text{Total} = 2000 + 240 = \$2,240$$

**Answer:** \$2,240

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