

Answers

1. Simplify 12:16:

Divide both by 4 ?

$$= 3:4$$

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

$$\text{Total parts} = 2 + 3 = 5$$

$$\text{First share} = (2/5) \times 120 = \$48$$

$$\text{Second share} = (3/5) \times 120 = \$72$$

3. Ratio cats:dogs = 4:7 and dogs = 28

$$\text{Each part} = 28 \div 7 = 4$$

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

4. \$240 for 8 hours:

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

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

Simplify both:

$$6:9 = 2:3$$

$$8:12 = 2:3$$

Yes, they are proportional.

6. 3 shirts cost \$45 ? cost per shirt = $45 \div 3 = \$15$

$$\text{So, 5 shirts} = 5 \times 15 = \$75$$

7. 5 pens cost \$10 ? 1 pen = \$2

$$12 \text{ pens} = 12 \times 2 = \$24$$

8. Boys = 18, Girls = 12 ? Total students = 30

Ratio of boys to total = 18:30 = Simplify by 6 ?

= 3:5

9. 25% of 480 = $(25/100) \times 480 = 120$

10. Let original price be x.

After 20% discount: $x - 0.20x = 150$?

$0.80x = 150$? $x = 150 \div 0.80 = \$187.50$

11. 5% of \$2,000 = $(5/100) \times 2000 = \$100$

12. 60% of number = 180 ?

$(60/100) \times x = 180$?

$x = 180 \div 0.6 = 300$

13. Simple Interest (SI) = $(P \times R \times T)/100$

= $(1200 \times 5 \times 3)/100 = \180

14. Compound Interest:

Formula: $A = P(1 + r/100)^t$

$A = 2000 \times (1 + 10/100)^3$

= $2000 \times (1.1)^3 = 2000 \times 1.331 = \$2,662$

15. Simple Interest = $(2000 \times 6 \times 2)/100 = 240$

Total = Principal + Interest = $2000 + 240 = \$2,240$