**Mathematical method assigement**

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**Answer**

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

12:16 = 3:4 (Labada tiroba 4 ayaa la isku qaybin karaa)

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

Wadarta saamiga = 2 + 3 = 5  
Qaybta 1aad: 25×120=48\frac{2}{5} \times 120 = 4852​×120=48  
Qaybta 2aad: 35×120=72\frac{3}{5} \times 120 = 7253​×120=72  
 $48 and $72

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

7 qaybood = 28  
1 qaybood = 4  
Markaa: 4 qaybood = 16 cats

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

240 ÷ 8 = $30 per hour

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

6/9 = 2/3  
8/12 = 2/3  
 Haa, waa proportional

1. If 3 shirts cost $45, how much would 5 shirts cost?

1 shirt = $15  
5 shirts = 5 × 15 = $75

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

1 pen = $2  
12 pens = 12 × 2 = $24

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

Total = 18 + 12 = 30  
Ratio = 18:30 = 3:5

1. Find 25% of 480.

0.25 × 480 = 120

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

Let original be x.  
80% of x = 150  
0.8x = 150  
x = 150 ÷ 0.8 = $187.50

1. A salesperson earns 5% commission on $2,000.

5% of 2000 = 0.05 × 2000 = $100

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

0.6x = 180  
x = 180 ÷ 0.6 = 300

1. Find simple interest on $1,200 at 5% for 3 years.

SI = (P × R × T) ÷ 100 = (1200 × 5 × 3)/100 = $180

1. Compound interest: $2,000 at 10% for 3 years (compounded annually)

Formula: A = P(1 + r/100)^t  
A = 2000 × (1 + 0.10)^3 = 2000 × 1.331 = $2662  
CI = 2662 - 2000 = $662

1. Loan: $2,000 for 2 years at 6% simple interest

SI = (2000 × 6 × 2)/100 = $240  
Total = 2000 + 240 = $2,240