

**ASSIGNMENT: PROJECT MANAGEMENT**

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**Course: Business Math**

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

Divide both numbers by their greatest common divisor (4):

12÷4=312÷4=3

16÷4=416÷4=4  
Simplest form: **3:4**

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

Total parts = 2+3=52+3=5

First part: 25×120=4852​×120=48

Second part: 35×120=7253​×120=72  
Divided amounts: **48and48*and*72**

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

Let the number of cats be x*x*.  
Given x28=4728*x*​=74​:

x=47×28=16*x*=74​×28=16  
Number of cats: **16**

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

Rate per hour = 2408=308240​=30  
Rate: **$30/hour**

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

Simplify both ratios:

6:9=2:36:9=2:3 (dividing by 3)

8:12=2:38:12=2:3 (dividing by 4)  
They are **proportional**.

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

Cost per shirt = 453=15345​=15  
Cost for 5 shirts = 5×15=755×15=75  
Total cost: **$75**

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

Cost per pen = 105=2510​=2  
Cost for 12 pens = 12×2=2412×2=24  
Total cost: **$24**

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

Total students = 18+12=3018+12=30  
Ratio of boys to total students = 18:3018:30  
Simplified ratio: **3:5**

9. Find 25% of 480.

25%=1425%=41​  
14×480=12041​×480=120  
Result: **120**

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

Let the original price be x*x*.  
After a 20% discount, the price is 80% of x*x*:

0.8x=1500.8*x*=150

x=1500.8=187.5*x*=0.8150​=187.5  
Original price: **$187.50**

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

Commission = 5%×2000=0.05×2000=1005%×2000=0.05×2000=100  
Earnings: **$100**

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

Let the number be x*x*.  
0.6x=1800.6*x*=180  
x=1800.6=300*x*=0.6180​=300  
Original number: **300**

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

Simple Interest (SI) = P×R×T100100*P*×*R*×*T*​  
SI=1200×5×3100=180*SI*=1001200×5×3​=180  
Interest: **$180**

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

Compound Interest formula:  
A=P(1+R100)T*A*=*P*(1+100*R*​)*T*  
A=2000(1+10100)3=2000×1.331=2662*A*=2000(1+10010​)3=2000×1.331=2662  
Total amount: **$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?

Simple Interest (SI) = 2000×6×2100=2401002000×6×2​=240  
Total repayment = Principal + Interest = 2000+240=22402000+240=2240  
Total amount: **$2,240**