**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÷7=4

4×4=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?**

Rate per hour=240​/8= 30

Final Answer:

The rate of pay is $30 per hour.

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

6 to 9 = 2:3

8 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?**

45/3 = $15 per shirt so 5\*15= $75

Final Answer:

5 shirts would cost $75.

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

10/5 = $2 per pen so 2\*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\*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?**

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\*$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% × x=180

Which is:

0.60 × 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.**

Simple Interest=P×R×T

SI= 0.05\*1200\*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**.

1. 2000\*0.1\*1= 2200
2. 2200\*0.1\*1= 2420
3. 2420\*0.1\*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\*2\*0.06= 240 2000+240= $2240

Final Answer:

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