



**ALPHA UNIVERSITY BORAMA**

### **Assignment of math's methods**

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#### **The assignment**

**Individual assignment the assignment 30 marks**

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Express the ratio 12:16 in its simplest form.

Simple form of 12:16 is 3:4

Divide \$120 in the ratio 2:3.

The total parts are  $2+3=5$

First part (2)  $\frac{2}{5} \times 120 = 48$

Second part (3)  $\frac{3}{5} \times 120 = 72$

The ratio of cats to dogs in a pet shop is 4:7. If there are 28 dogs, how many cats are there?

$28/7 = 4$  sets

This means for every 7 dogs there are 4 cats

Number of cats =  $4 \times 4 = 16$  cats

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

Rate of pay per hour = total earnings / number of hours worked rate of pay per hour

$\$240/8 = \$30$  per hour

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

Ratio proportion 6:9 and 8:12 are proportional because alternatively cross product are equal

$6 \times 12 = 72$  and  $9 \times 8 = 72$

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

Cost per shirts = total cost/ number of shirts cost per shirt

$$\$45/3=\$15$$

$$\$15*5=\$75$$

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

Cost per pen= total cost/ number of pen cost per pen

$$\$10/5=\$2$$

$$\$2*12= \$24$$

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

Total number of student= number of boys + number of girls/ total number of student

$$=28+12=30$$

The ratio of boys to total number of student ratio = 18:30 so simplify this ratio 18:30

The ratio of boys to the total number of student is 3:5

Find 25% of 480.

25% is equivalent to 25/100 or  $\frac{1}{4}$ , 25% of 480  $=(25/100)=0.25$

$$480=120 \text{ alternatively } (1/4)*480= 480/4=120$$

the answer would 25% of 480 is 120.

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

Let Original

price

P

The discount is 20% of the original price which is P 0.20\*

$$P-0.20=\$150$$

$$\$150/0.80= \$187.50 \text{ So original price is } \$187.50$$

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

Commission=

Commission rate\* total sales commission

$$=(5/100*2000= 0.05$$

$$=0.05*2000= 100$$

Therefore commission is \$100

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

$$= 0.6*180= 108$$

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

Formula for simple interest  $SI=P/\text{Times } R/\text{Times } P$

$$P=1200$$

$$R=5\%=0.05$$

$$T= 3 \text{ Years}$$

$$=1200*0.05*3$$

$$= \$180$$

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

Compound interest

$$= 2000(1+(0.10)*3$$

$$=2000(1.10)*3=2662$$

There fore total amount after 3 years is 2662

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?

$$P= \$200$$

$$R=6\%= 0.06$$

$$N=1(\text{annually})$$

$$T+ 2 \text{ years}$$

$$2000+.06(1)*2$$

$$2000 (1.06*2)$$

$$2247.20$$