**ALPHA UNIVERSITY BORAMA**

**Assignment of math’s methods**

**Name: Faarah Jama Abdirahman…………………………………… faculty Accounting and finance………… ID…521……**

**The assignment**

**Individual assailment the assignment 30 marks**

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

Simple form of 12:16 is 3:4

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

The total parts are 2+3= 5

First part (2) 2/5\*120=48

Second part (3) 3/5\*120=72

1. 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\*4=16 cats

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

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

$240/8=$30 per hour

1. 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\*12=72 and 9\*8=72

1. 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

1. 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

1. 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

1. Find 25% of 480.

25% is equivalent to 25/100 or ¼, 25% of 480 =(25/100)=0.25

480=120 alternatively (1/4)\*480= 480/4=120

the answer would 25% of 480 is 120.

1. 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-020=$150

$150/0.80= $187.50 So original price is $187.50

1. 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

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

= 0.6\*180= 108

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

Formula for simple interest SI=P/Times R/Times P

P=1200

R=5%=0.05

T= 3 Years

=1200\*0.05\*3

=$!80

1. 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

1. 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(annually)

T+ 2 years

2000+.0.06(1)\*2

2000 (1.06\*2)

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