 Pakistan School, Kingdom of Bahrain

E- Support & Learning Material

**Subject : Mathematics ( Arts ) Grade : 9th**

EXERCISE 1.2

 Chapter number 1 RATIO

1. IF 45% OF THE STUDENTS IN A SCHOOL ARE GIRLS. WHAT PERCENTAGE ARE BOYS?

Total percentage =100%

Percentage of girls students =45%

Boys =Total – girls students

 100%-45% = (100-45)% =55%

4) An aero plane carries 400 passengers,52% were Pakistani, 17% were Chinese,12%were from Iran and the rest were from British

1. How many People of each nationality were on the Plane?
2. What percentage were British?
3. Solution: I ): Total Passengers in aeroplane =400

% of Pakistani Passengers =52%

Numbers of Pakistani Passengers =400x52/100 =208

Percentage of Chinese Passengers =17%

Numbers of Chinese Passengers =400x17/100 =68

Percentage of Irani Passengers =12%

Numbers of Irani Passengers =400x12/100 =48

 II) British Passengers =400-(208+68+48)

 = 400-324 =76

Now percentage of British =(100x76/100)% =19%

5) Amna scored 46 out of 50 in Math’s test, 64 out of75 in a Chemistry test, and 72 out of 80 in a Physics test, In which subject did she Perform best?

Solution: Total Marks of maths =50

 Obtained Marks = 46

Maths Percentage = ( Total marks obtained /Total marks )x100%

 =( 46x100/50)%=92%

Total Marks in Chemistry=75

Obtained Marks =64

Percentage =(64x100/75)% = 85.33%

Total Marks in Physics = 80

Obtained Marks =72

Percentage = (72x100/80)% =90%

So she performed best in Maths

7); if 84% of a book consists of 420 pages. Find total number of pages in the book.

Solution: 84% of book consists = 420 pages

Total numbers of pages = ?

Total Pages = 420x100/84 =42000/84 = 500 Pages

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 Home Work Q.N 2 ,3 ,6,8 , 9

1. EXERCISE 1.3

 chapter number 1 RATIO

Find the ratio of first quantity to the second in its lowest term

1. Rs24, Rs 6

24:6 = 4:1

1. 20kg,5kg

20:5 =4;1

III) Rs 150,Rs 275

150:275 =30:55 =6:11

2): Express each of the following ratio in its simplest form

i) : 2/3:3/5

2/3:3/5 =2/3÷3/5 =2/3x5/3 =10/9 or 10:9

VI):4/10:20

 4/10:20 = 4/10x1/20 =1/50 = 1:5

1. In a city 126 medical students traveled by:

 Rikshaw Taxi Bus car

 14 9 75 28

 Find ratio of the students who used

1. Rikshaw to taxi
2. Taxi to bus
3. Taxi to car

Solution: i) Rikshaw to Taxi 14:9

 II) Taxi to bus = 9:75 = 3:25

iii)Taxi to Car 9:28

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Q 4: In a school libray , there are 75 books on Mathematics , 115 on English, 85 on Chemistry and 60 on P hysics. Find ratio of the following

1. Mathematics books to English books.
2. English books to Chemistry books.
3. English books to Physics books.
4. Physics books to Chemistry books.
5. Physics books to Mathematics books
6. Chemistry books to Mathematics books.

Solution: i) 75:115 = 15:23

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ii) 115:85 = 23:17

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iii): 115:60 = 23:12

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1. 60:85 = 12:17
2. 60:75 = 12:15 =4:5

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1. 85:75 = 17:15

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Note that the remaining parts of Q1 and2 are home work

1. EXERCISE 1.4

 Chapter number 1 RATIO

Q1): Find the ratio of 6 rupees each to 72 rupees per dozen.

Solution: we know that

 1 dozen = 12

Price of 12 dozen =72

Price of 1 = 72/12 =6

Now ratio

6:6 => 1:1

Q4): A square ,A, has side 2cm and a square B has side 6cm.

Find the ratio of:

i)The length of the side of the square A to the length of the side of the square B

II) The perimeter of the square A to the perimeter of the square B.

III) The area of the square A to the Area of the square B.

Solution :(i) Length of side A: Length of side B

 2:6 OR 2/6=1/3 =>1:3

 (II) Perimeter of square A =4a (where a is a side)

 4(2)=8

 Perimeter of the square B = 4(6) = 24

Now 8:24 or 8/24= 1/3 0r 1:3

 (iii) Area of square A = $a^{2}$=$2^{2}$=4

 Area of square B = $6^{2}$=36

 Now 4: 36 0r 4/36 1/9 = 1:9

Q (7): Two angles in a Triangle are $54^{0 }$and $72^{0}$. Find the ratio of the third angle to the sum of the first two.

Solution: Let A, B and C represent three angles of a triangle. Now

<A= $54^{0}$, <B = $72^{0}$, <C =?

We know that

<A+<B+<C=$180^{0}$

54+72+<A=180

126+<A=$180^{0}$

<A=$180^{0}$\_$126^{0}$=$54^{0}$

Now <A+<B=$126^{0}$

So $54^{0}$:$126^{0}$ or 54/126=27/63= 9/21=3/7or $3^{0}$:$7^{0}$

Q (10): A family has 12 pets of which 6 are cats, 2 are dogs and the rest are birds. Find the ratio of the number of

1. Birds to dogs
2. Birds to pets

Solution: Total pets=12

Cats =6

Dogs =2

Birds =12-(6+2) =12-8=4

Now

1. Birds: dogs =4:2 or 4/2 =2/1 or 2:1
2. Birds: pets =4:12or 4/12 =1/3 =1:3

NOTE the remaining questions of exercise 1.4 are your home work

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