ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian minority Institution

Subject: Mathematics   Class: X   Date:10.07.2021

Answer key of Worksheet-7
Chapter – Variation
Topic- Direct and Indirect variation

1. <u>Choose the correct alternative.</u>   1x15=15
   a)The area of an umbrella varies directly as the square of its radius .If the radius of the umbrella is doubled. Then what is the relationship between the old area and new area?   Ans I) new area is 4 times the old one

   b) If X is in indirect variation with square of Y and when X is 3, Y is 4. What is the value of X when Y is 2   Ans iii) 12

   c)If x=5 when y=10 , x=25 when y=2 and x=10 when y= 5 . What kind of relation x and y share   Ans ii) indirect variation

   d) y is directly proportionate to x^2 and y=9 when x=9. Now if y=4 the value of x is   Ans iii)± 6

   e) if

A	25	30	45	250
B	10	12	18	100

   What is the variation constant?   Ans ii) 2.5

   f) what kind of relation we find between A and B form the above table ?
    Ans i) A α B

   g)

X	18	8	12	6
Y	3	27/4	9/2	9

   What is the value of variation constant? I) 54   ii) 45   iii) 36   iv) none of these

   h) what kind of relationship we find between X and Y from the above table ?
   Ans i)x α 1/y

   i)   If a α b and b α c then a^3 + b^3 + c^3 α   Ans i) 3abc

j)Few sweets have been distributed among 24 students so that each one will get 5 sweets. If number of students becomes less by 4 then how many sweets each student will get? Solve by the method of variation .
  Ans   ii) 6

k)y is directly proportional to the square root of x and y=9 when x=9 , Find the value of x when y=6   Ans i) 4

l)If a α b, b α 1/c   and c α d then find the relationship between a and d
Ans ii)a α 1/d

m)Acceleration varies inversely with mass . A force acts on a 2kg object and accelerates it by 12m/ $second^2$, If the same force applied to another object and it accelerated by 6 m/s^2 . what is the mass of this object?
  Ans i) 4 kg

n) y varies inversely with x   and y=3 when x=8 . Find y when x=6 . Ans   iii)4

o) y varies directly with the cube of x and y=4 when x=4 , find y when x=2
Ans iii) ½

<div align="right">**Aparajita   Mondal**</div>