



# ST. LAWRENCE HIGH SCHOOL



## Ajesuit Christian minority Institution

Subject: Mathematics

Class: X

Date: 24.04.2020

### Chapter - Variation

#### Topic-Concept of variation Worksheet-16

##### 1. Choose the correct alternative.

1x15=15

- a) If  $x \propto y$ , then which of the following is true i)  $x \propto 1/y$  ii)  $y \propto 1/x$  iii)  $y \propto x$  iv) none of these
- b) If  $x \propto 1/y$ , then which one of the following is true i)  $x = 1/y$  ii)  $y = 1/x$  iii)  $xy = 1$  iv)  $xy =$  non zero constants
- c) If  $x \propto y$  then which one of the following is true i)  $x^2 \propto y^3$  ii)  $x^3 \propto y^2$  iii)  $x^2 \propto y^2$  iv) none of these
- d) If  $x \propto y$  and  $y=8$  when  $x=2$ . Now if  $y=16$  then value of  $x$  is i) 2 ii) 4 iii) 6 iv) 8
- e) If  $x \propto y^2$  and  $y=4$  when  $x=8$ . Now  $x=32$  then positive value of  $y$  is i) 4 ii) 8 iii) 16 iv) none of these
- f)  $y-z \propto 1/x$ ,  $z-x \propto 1/y$  and  $x-y \propto 1/z$  then sum of the variation constants is i) 1 ii) 0 iii) -1 iv) 2
- g) If  $x \propto 1/y$  and  $y \propto 1/z$  then  $x \propto$  \_\_\_\_\_ i)  $y$  ii)  $z$  iii)  $1/z$  iii) none of these
- h) If  $x \propto y$  then  $x^n \propto$  \_\_\_\_\_ i)  $y^n$  ii)  $1/y^n$  iii)  $y^{n-1}$  iv) none of these
- i) If  $x \propto y^2$  and  $y=2a$  when  $x=a$ , now  $x=16a$  then positive value of  $y$  is i)  $6a$  ii)  $8a$  iii)  $4a$  iv) none of these
- j) If  $x \propto y$ ,  $y \propto z$  and  $z \propto x$  then product of the variation constants is i) 1 ii) 0 iii) -1 iv) none of these
- k) If  $x^2 \propto yz$ ,  $y^2 \propto zx$  and  $z^2 \propto xy$  then product of the variation constant is i) 0 ii) 1 iii) -1 iv) none of these
- l) 50 villagers took 18 days for digging a pond. How many people are needed to dig the pond in 15 days? use method of variation. i) 60 ii) 70 iii) 75 iv) none of these
- m) If  $x+y \propto x-y$  then which of the following is true i)  $x \propto 1/y$  ii)  $x \propto y$

iii)  $y \propto 1/x$  iv) none of these

n) 42 machines are required to make some other machines in 63 days . To make same numbers of machines in 54 days , how many machines are required ?

i) 48 ii) 50 iii) 49 iv) none of these

o) If  $x \propto y$  and  $x \propto z$  then  $(y+z) \propto$  \_\_\_\_\_ i) x ii) y iii) z iv) none of these

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