Core Mathematics S1(GCE)

Practice Answer 1

Standard A*

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Critical thinking is the key to solve real world problems.

Children must be taught how to think, not what to think.

A great teacher will be creating students to do new things through critical thinking, Not simply repeating what other generations have done before. We do not need another Albert Einstein or Isaac Newton.... we need a person better than them.

Mr.S.V. Swarnaraja

Answer:

(a) $S_{pp} = \sum p^2 - \frac{(\sum p)^2}{n}$

$= 20414 - \frac{450^2}{10}$

$= 164$

$S_{pt} = \sum pt - \frac{(\sum p)(\sum t)}{n}$

$= 11901 - \frac{450 \times 260}{10}$

$= 201$

(b) $r = \frac{S_{pt}}{\sqrt{S_{pp} \times S_{tt}}}$

$= \frac{201}{\sqrt{164 \times 398}}$

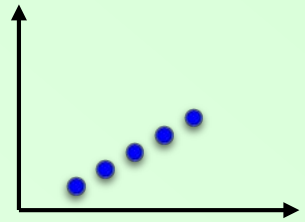
$= 0.786742 \ldots$

$= 0.787$

(c) As the temperature increases the pressure increases.

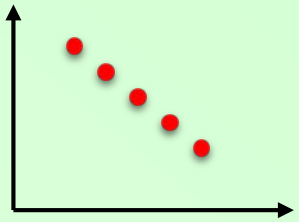
(d) $(\bar{p}, \bar{t}\,) \Rightarrow (45,26)$

(e) (i)



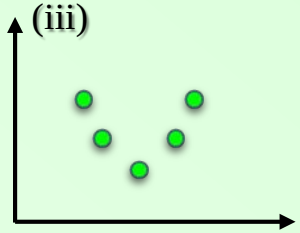
(On a straight line with increasing slope)

(ii)



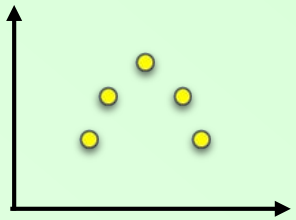
(On a straight line with decreasing slope)

(iii)



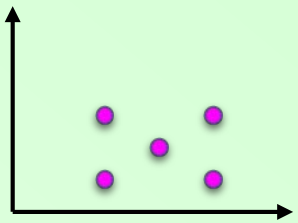
(Quadratic min curve)

or



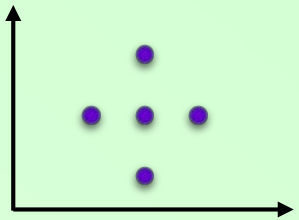
(Quadratic max curve)

or



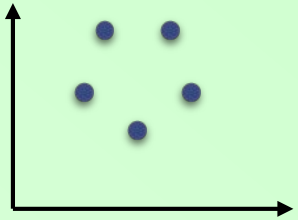
(× Pattern)

or



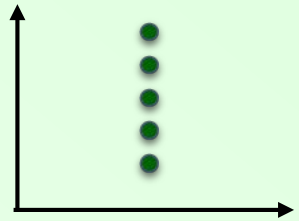
(+ Pattern)

or

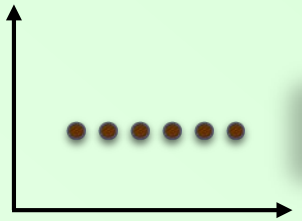


(Circle)

(iv)



or



(When one variable is constant)

Golden Rules

- $S_{xx} = \Sigma x^2 - \frac{(\Sigma x)^2}{n} = \Sigma(x - \bar{x})^2$
- $S_{yy} = \Sigma y^2 - \frac{(\Sigma y)^2}{n} = \Sigma(y - \bar{y})^2$
- $S_{xy} = \Sigma xy - \frac{(\Sigma x)(\Sigma y)}{n} = \Sigma(x - \bar{x})(y - \bar{y})$
- $r = \frac{S_{xy}}{\sqrt{S_{xx}S_{yy}}}$

Traditonal or Online classes

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