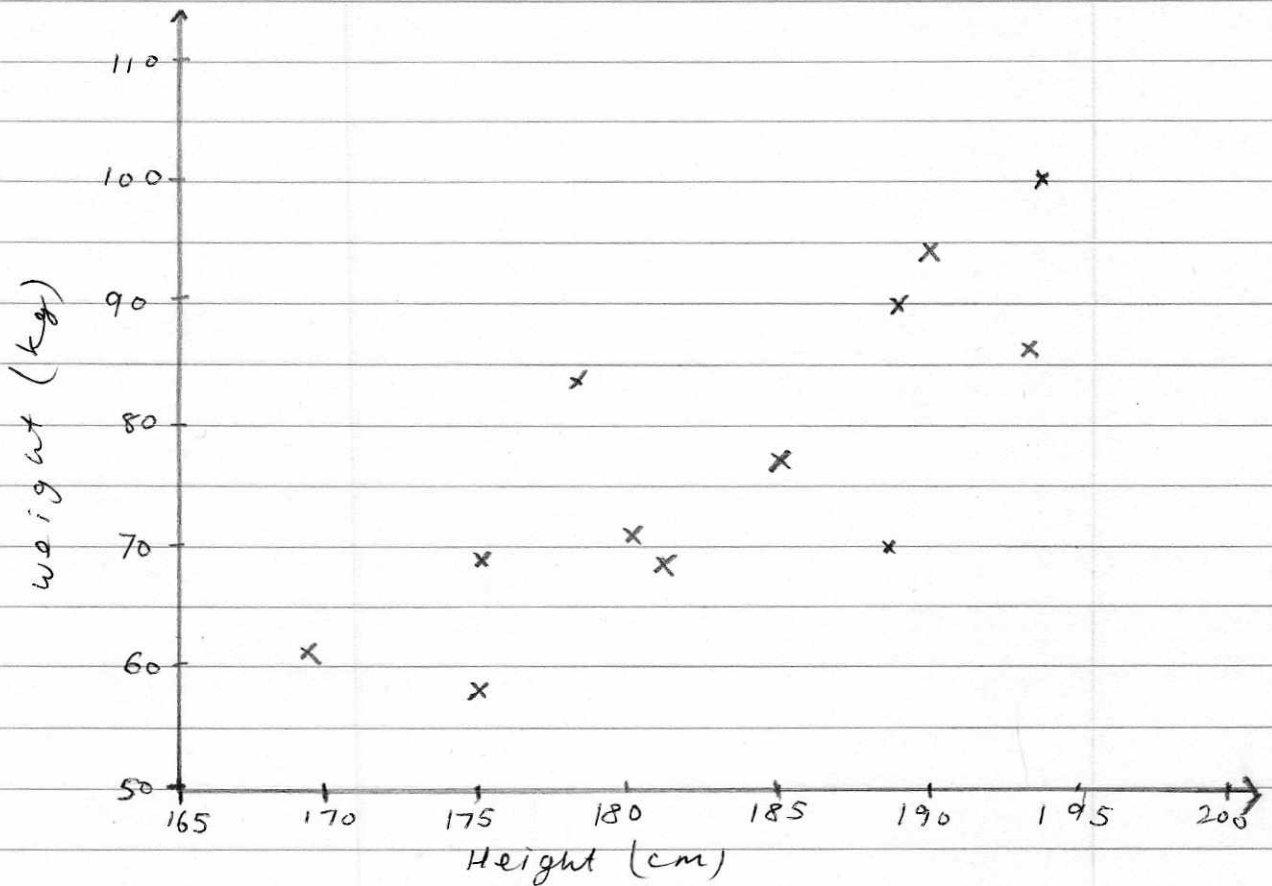a/

Weight (kg) vs Height (cm)

b/ As the height increases, the weight increases.
(Positive correlation)

c/ For every 1cm increase in height weight increases by 1.37kg

d/ $H_0 : \rho = 0$
$H_1 : \rho > 0$

critical region $x > 0.4973$

$0.81 > 0.4973$ ∴ reject H_0 and
accept H_1. There is a positive correlation.

e/ critical value at 1% sig. level 0.6581

the conclusion would be the same.

2a/ H_0 : $\rho = 0$
         H_1 : $\rho \neq 0$

b/   Critical value: 0.4409
     critical regions $x < -0.4409$ and $x > 0.4409$

     0.37 is in the acceptable region ∴ we
     accept H_0.   There is not enough evidence
     to suggest there is a correlation between
     temperature and rainfall.

3/ H_0 : $\rho = 0$
         H_1 : $\rho > 0$

     Critical value   0.6581
     critical region $x > 0.6581$

     $0.636 < 0.6581$ we accept H_0.
     There is not enough evidence to suggest
     a positive correlation between temperature
     and hours of sunshine

4a/ $H_0 : \rho = 0$
          $H_1 : \rho \neq 0$

b/   critical value 0.5324

critical regions $x < -0.5324$ and $x > 0.5324$

    $-0.55 < -0.5324$ $\therefore$ reject H_0.

There is evidence to suggest a correlation between maximum relative humidity and daily mean pressure.