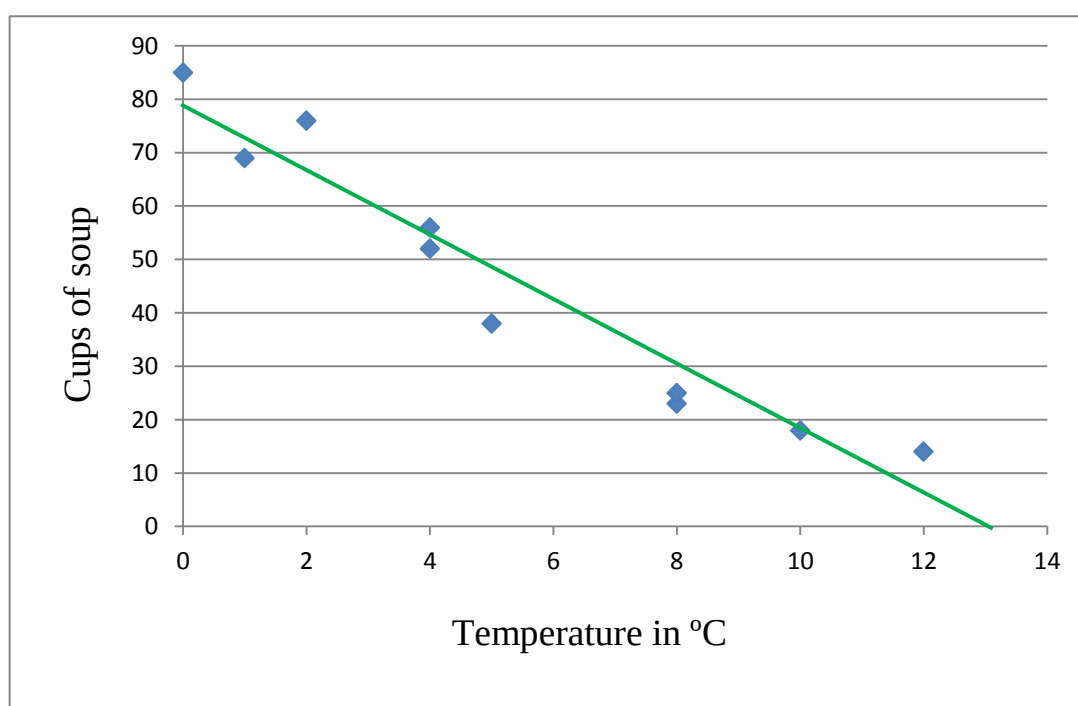


The owner of a soup kitchen notes that the relation between the number of cups of soup sold and the temperature forecast on the TV for the day looks as follows:

Day:	1	2	3	4	5	6	7	8	9	10
Temperature in °C:	12	10	8	5	8	4	1	0	4	2
Cups of soup:	14	18	23	38	25	56	69	85	52	76

- (1) Draw a scatter plot with the temperature on the x-axis and the number of cups on the y-axis.



- (2) Calculate the equation of the regression line.

$$A = 79,25140449 \approx 79 \quad \text{en} \quad B = -6,231741573 \approx -6$$

$$\therefore y = 79 - 6x$$

- (3) Draw the regression line in on the scatter plot in (1).

$$\therefore y\text{-intercept} = (0 ; 79) \quad \text{and} \quad x\text{-intercept} = \left(\frac{79}{6} ; 0\right) \approx (13 ; 0)$$

See on graph in green.

- (4) Identify any outlier(s), if applicable. Label it as A, B.....

No outliers.

(5) Calculate the correlation coefficient.

$$r = -0,9659818121$$

(6) Interpret the correlation coefficient.

The correlation is very strongly negative.

∴ As the temperature drops, the number of cups of soup sold will increase sharply.