

SCATTERPLOTS

SKILLS QUESTIONS

For each question, answer the following:

- (a) Draw a scatterplot.
- (b) Calculate the 2 mean points.
- (c) Draw the regression line.
- (d) Using the 2 mean points, calculate the gradient.
- (e) What is the y-intercept?
- (f) What is the equation of the line?



Q1. A metal bar expands as it heats up. The table shows the experimental data obtained.

Temperature (°C)	120	130	142	148	156	158	173	187	192	200
Length (cm)	134	146	155	156	169	170	181	199	204	216

Q2. The table shows the daily sales of hot food at a fair and the daily temperatures.

Temperature (°C)	10	14	16	18	19	26	28	30	35	38
Daily Hot Food Sales (x 100s)	5.2	4.5	4.1	3.8	3.5	3.1	2.6	2.0	1.8	1.4

Q3. The table shows data about teenager's average daily study time and their subject results. (Hint: Reorder the Daily Study Time first.)

Daily Study Time (min)	30	60	45	120	180	100	130	20	15	75
Subject Results (%)	40	54	42	82	91	73	85	32	27	62

Q4. What do you about the slopes of the graphs in Questions 1 and 3 compared with Question 2?

ANSWERS

	1 st Mean Point	2 nd Mean Point	Gradient	y-intercept (approximate)	Equation (approximate)
Q1	(139.2, 152)	(182, 194)	0.98	15.6	$y = 0.98x + 15.6$
Q2	(15.4, 4.2)	(31.4, 2.2)	- 0.13	6.2	$y = -0.13x + 6.2$
Q3	(34, 39)	(121, 78.6)	0.46	23.4	$y = 0.46x + 23.4$

Q4.

Graphs of Questions 1 and 3 are positive.

Graph of Question 2 is negative.