

12 Fig. 12.1 shows an excerpt from the pre-release material.

	A	B	C	D	E	F	G	H
1	Sex	Age	Marital	Weight	Height	BMI	Waist	Pulse
2	Female	34	Married	60.3	173.4	20.05	82.5	74
3	Female	85	Widowed	64.7	161.2	24.9	#N/A	#N/A
4	Female	48	Divorced	100.6	171.4	34.24	105.6	92
5	Male	61	Married	70.9	169.5	24.68	92.2	70
6	Male	68	Divorced	96.8	181.6	29.35	112.9	68

Fig. 12.1

There was no data available for cell H3.

(a) Explain why #N/A is used when no data is available. [1]

Fig. 12.2 shows a scatter diagram of pulse rate against BMI (Body Mass Index) for females. All the available data was used.

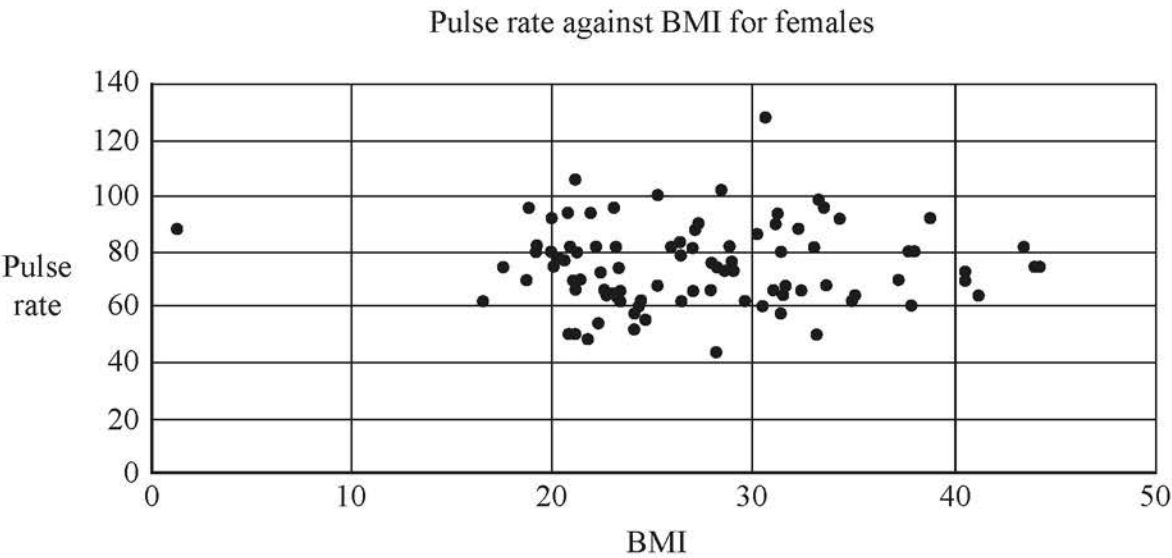


Fig. 12.2

There are **two** outliers on the diagram.

(b) On the copy of Fig. 12.2 in the Printed Answer Booklet, ring these outliers. [1]

(c) Use your knowledge of the pre-release material to explain whether either of these outliers should be removed. [2]

(d) State whether the diagram suggests there is any correlation between pulse rate and BMI. [1]

The product moment correlation coefficient between **waist measurement**, w , in cm and **BMI**, b , for females was found to be 0.912. All the available data was used.

- (e) Explain why a model of the form $w = mb + c$ for the relationship between waist measurement and BMI is likely to be appropriate. [1]

The LINEST function on a spreadsheet gives $m = 2.16$ and $c = 33.0$.

- (f) Calculate an estimate of the value for cell G3 in **Fig. 12.1**. [1]