Lesson 4 Assignment

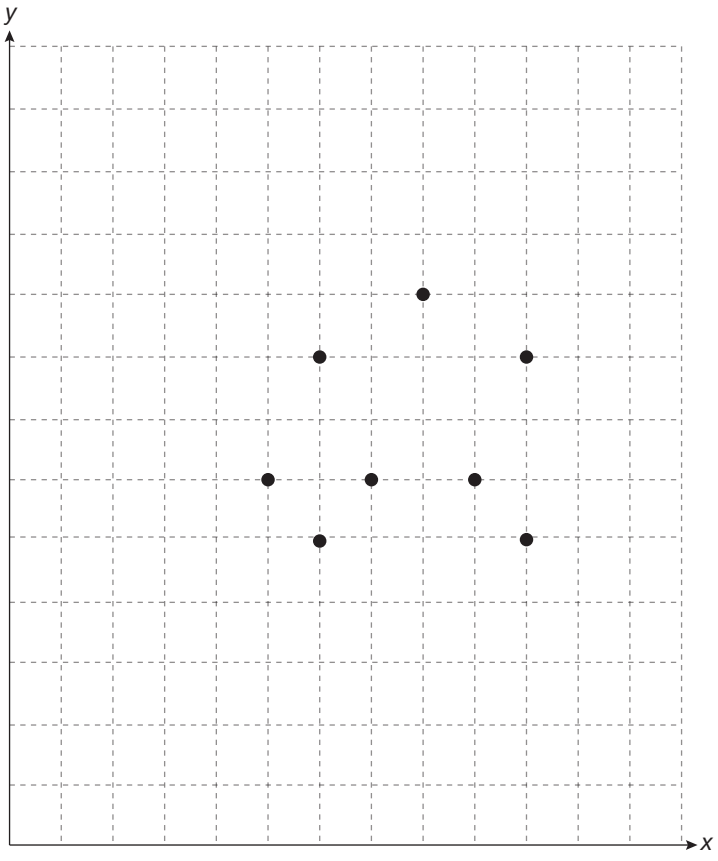
Understanding Linear Trends and Scatterplots – Part B

Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

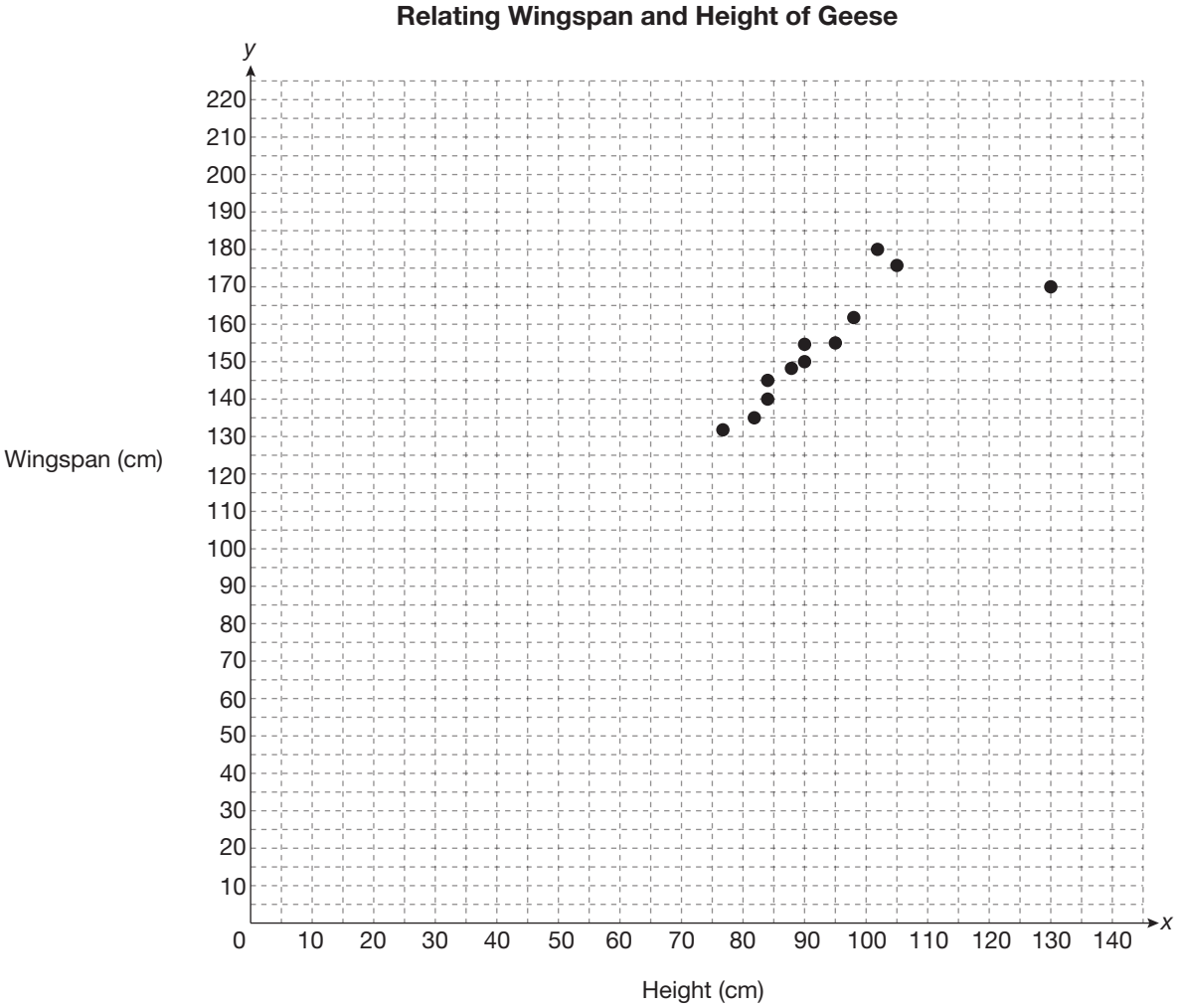
For full marks, show all calculations, steps, and/or explain your answers.

Total marks: 15

(1) 11. Draw a line of best fit for the graph if possible.



12. To observe growth patterns, scientists measure and tag birds as well as other animals. Maria measures the height and wingspan of 12 geese and creates a scatterplot of the data.

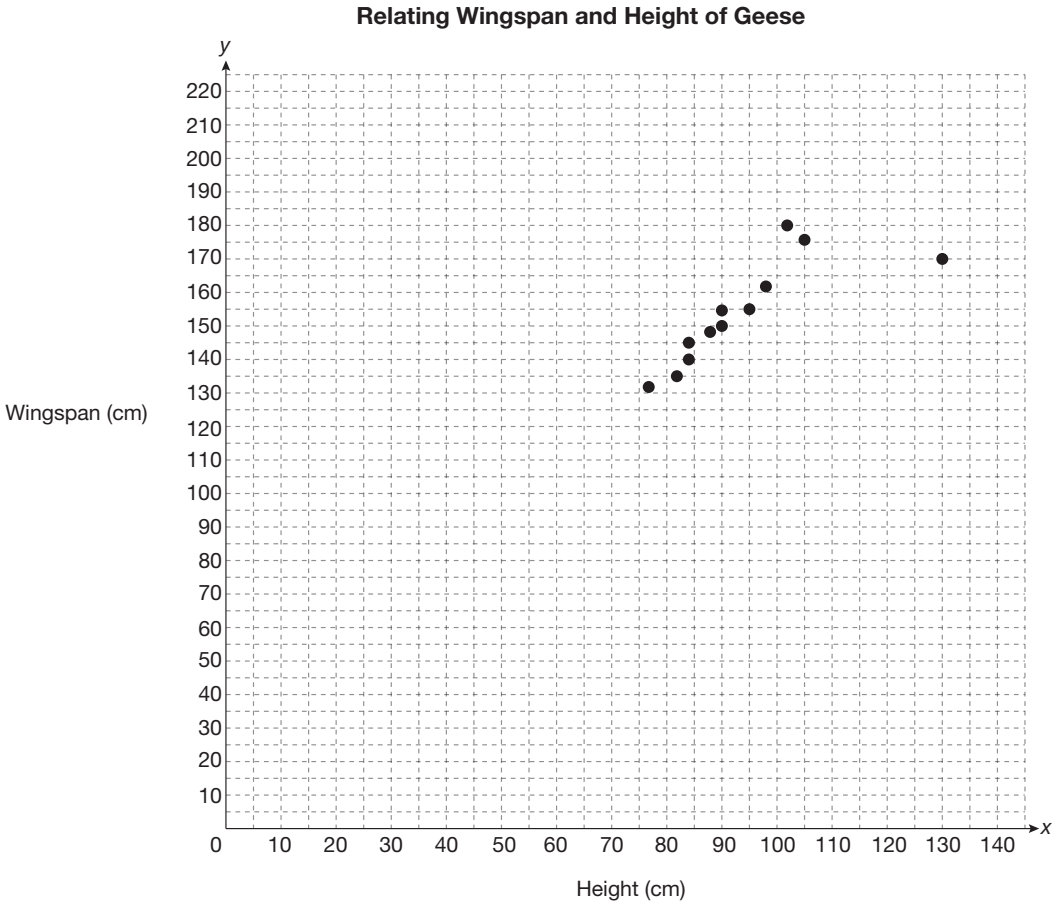


(1) a. Circle any outliers on the graph above.

(1) b. Does the scatterplot show positive correlation, negative correlation, or no correlation?

(1) c. What trend is seen in the scatterplot?

(1) d. Draw the line of best fit.



e. A goose has a height of $100\ \text{cm}$.

(1) i. What will be its wingspan?

(1) ii. Is interpolation or extrapolation use to solve this problem?

f. A gosling has a wingspan of $60\ \text{cm}$.

(1) i. What will be its height?

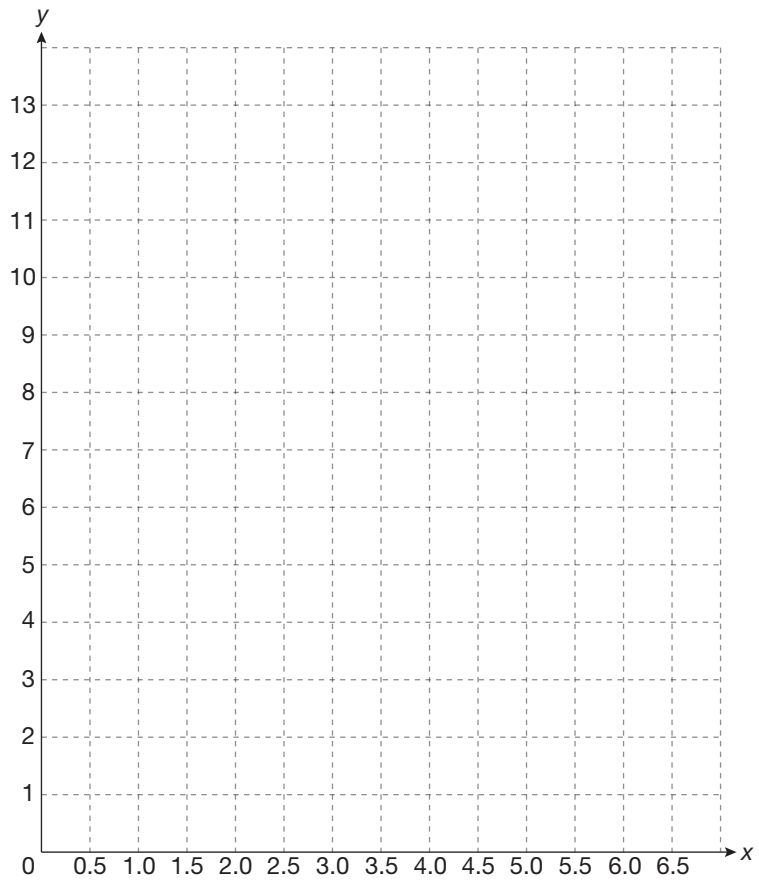
(1) ii. Is interpolation or extrapolation used to solve this problem?

13. A zoologist studied the relationship between the distance from a lake and the number of felines per 100 square kilometres. The data is recorded in the table of values below.

Distance from Lake (km)	Number of Felines $(\text{per } 100 \text{ km}^2)$
3	9
1	11
4	7
3.5	8
4.5	6
2.5	8
5	7
2	7
1.5	9

(1) a. Identify the dependent variable and the independent variable.

(2) b. Draw a scatterplot for the table of values.
Be sure to include
- the labelled axes (including units)
- the dependent variable of the y-axis and the independent variable on the x-axis
- a title



(1) c. Does the scatterplot display positive correlation, negative correlation, or no correlation?

(1) d. What trend is displayed in the scatterplot?

(1) e. Draw the line of best fit on the scatterplot in *part b*.