

Unit 3

Q1)

	Y4	Y5	Y6	<u>Total</u>
Swim	20	21	18	59
Can't Swim	11	14	12	37
<u>Total</u>	31	35	30	96

(i) 20

(ii) 35

(M1) for 4 or 6 info
in a clearly labelled
two way table.

(A1) for 20

(M1) New calculation
on the 2 way table

(A1) for 35

Q2)

$$\text{Kitty} = \frac{10}{90} \times 360^\circ = 40^\circ$$

$$\text{Top Cat} = \frac{35}{90} \times 360^\circ = 140^\circ$$

$$\text{Kattkins} = \frac{30}{90} \times 360^\circ = 120^\circ$$

$$\text{Cool Kat} = \frac{15}{90} \times 360^\circ = 60^\circ$$

(M1) $360 \div 90 = 4$
OR
one angle

(A1) any two angles
Correct

(A1) all correct
angles and
full labelled
pie chart
 $\pm 2^\circ$

Before: 58 59 60 61 64 ...

Q3)

Average
median:

Before	After
67	78

OR
mean

Before	After
69.6	80.9

(BI) → one correct median
(BI) → median Before & after

Spread

IQR (75% - 25%)
 $\frac{15+1}{4} = 4^{th}$ $16 \times \frac{3}{4} = 12^{th}$
25% 75%

Before	After
78 - 61	91 - 69
= 17	= 22

(BI)

(BI)

★ Compare:

- average
(ie median/mean)
- measure of spread
(ie IQR / range)

Conclusion:

1. median is higher after walking up **(CI)** the stairs, therefore heart rates go faster after walking up.
2. Interquartile range is more wide spread, it means rate of increase varies more after walking up the stairs. **(CI)**

Q4)

	A	B (MI)	Total
mean	67.8	$\frac{2265}{30} = 75.5$	72
No of Students	25	30	55
Total Score	$67.8 \times 25 = 1695$	\uparrow $3960 - 1695 = 2265$	$72 \times 55 = 3960$

(MI) OR \uparrow

Answer: 75.5 **(A1)**

Q5)

a) $20 < T \leq 24$ (B1)

b) midpoint \times frequency

$10 \times 6 = 60$

$14 \times 8 = 112$

$18 \times 13 = 234$

$22 \times 21 = 462$

$26 \times 2 = 52$

(M1) for

4 correct

Total: 920

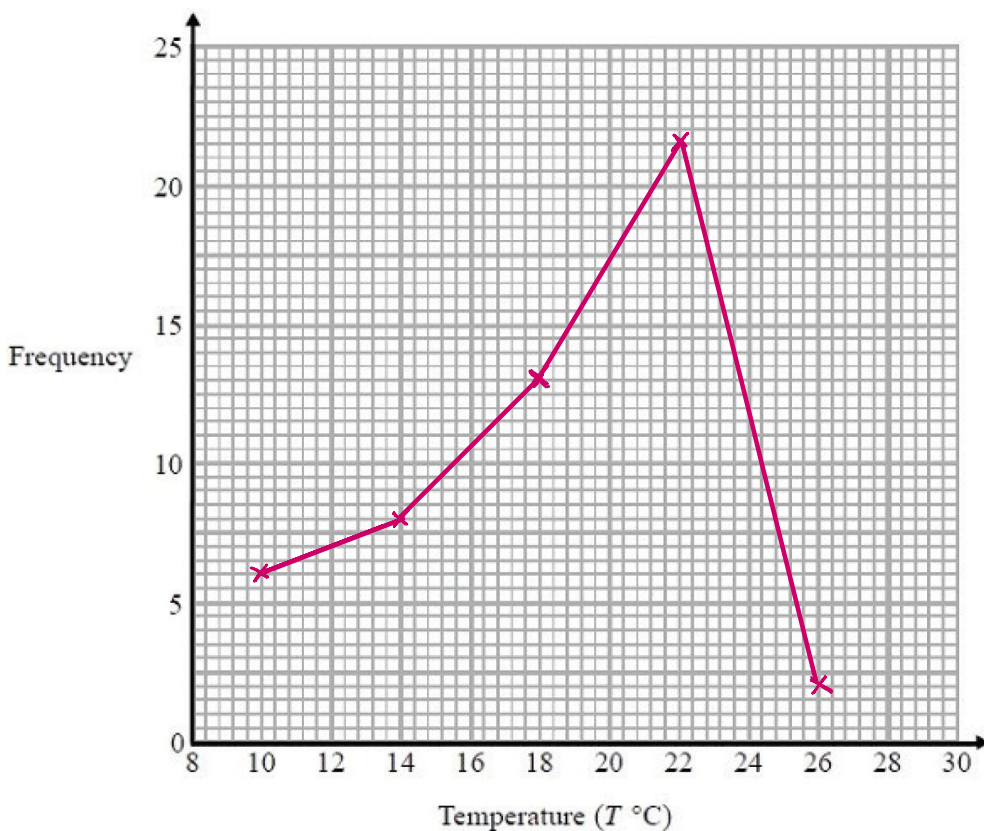
(M1)

(M1)

$\div 50$

Mean: $920 \div 50 = 18.4$
days

(A1)



Correct
B1 dots
B1 joined
with
straight
line
segments.

Q6)

a) positive correlation OR
as the length of the pine
coin increases the width (BI)
increases.

(b) line of Best Fit (MI)

Answer range: 6.1 to 6.4
(AI)

Q7)

Total for 11 games = $11 \times 33 = 363$ (PI)

If mean score was 2 points higher.

Total for 10 games = $10 \times 35 = 350$ or

$$363 - 350 = 13 \text{ (MI)}$$

\therefore Yes Jordan is correct.

(CI) "Yes" with 13 from correct working

Q8) There are more boys than girls. (70%)

$$\frac{10 \times 70 + 15 \times 80}{25}$$

$$= \frac{700 + 1200}{25}$$

$$= \frac{1900}{25}$$

$$= 76\% \quad \therefore \text{more than}$$

(C1) make reference to different numbers of girls and boys

(C1) more boys with 80%
 \therefore more

OR correct mean.

Q9)

a) $22 \leq f < 24$

b) 21.9

(M1) $\sum xf$ midpoint

(M1) $\sum fx \div 40$

(A1) 22 is accepted if working seen

Q12)

a) $(4, 10)$

b) i) through $(2, 20)$ $(2, 30)$ $(13, 86)$ $(13, 94)$

ii) positive correlation

c) between b_0 and F_0 .

d)

C1 for referring to the danger of extrapolation outside the given range or for a given point
Eg line of best fit may not continue or full marks are hard to achieve no matter how much revision is done