

5. The table gives a summary of the data for Daily Mean Air Temperature for Perth in 2015 from the large data set

Daily Mean Air Temperature $t$ ( $^{\circ}\text{C}$ )	Frequency
$8 \leq t < 13$	50
$13 \leq t < 14.5$	34
$14.5 \leq t < k$	52
$k \leq t < 20$	31
$20 \leq t < 25.5$	17

where  $k$  is a constant.

An estimate for the 5th percentile of these data is found to be  $8.92^{\circ}\text{C}$

- (a) Find an estimate for the 90% interpercentile range.

(4)

On a histogram of these data, the bar representing  $14.5 \leq t < k$  is 2.08 times taller than the bar representing  $8 \leq t < 13$

- (b) Find the value of  $k$

(2)

The estimated Daily Mean Air Temperature,  $\bar{t}$   $^{\circ}\text{C}$ , is calculated from these data.

- (c) With reference to the large data set, state whether the actual annual mean of Daily Mean Air Temperature for 2015 would be expected to be more than, less than, or similar to  $\bar{t}$   
Give a reason for your answer.

(2)