



Statistics Ex 7.4 Q1

Answer :

First of all arranging the data in ascending order of magnitude, we have

694, 696, 699, 705, 710, 712, 715, 716, 719, 724, 725, 728, 729, 734, 745

Here, $N = 15$, which is an odd number

Therefore, median is the value of

$$\begin{aligned}\left(\frac{N+1}{2}\right) &= \frac{15+1}{2} \\ &= 8^{\text{th}} \text{ observation} \\ &= \boxed{716}\end{aligned}$$

Statistics Ex 7.4 Q2

Answer :

First we prepare the following cumulative table to compute the median.

Height (in cm) Class:	Frequency: (f_i)	Cumulative Frequency (c.f.)
160–162	15	15
163–165	118	133
166–168	142	275
169–171	127	402
172–174	18	420
	$N = 420$	

Now, $N = 420$

$$\therefore \frac{N}{2} = 210$$

Thus, the cumulative frequency just greater than 210 is 275 and the corresponding class is 166–168

Therefore, 166–168 is the median class.

$$l = 166, f = 142, F = 133 \text{ and } h = 2$$

We know that,

$$\begin{aligned}\text{Median} &= l + \left\{ \frac{\frac{N}{2} - F}{f} \right\} \times h \\ &= 166 + \left\{ \frac{210 - 133}{142} \right\} \times 2 \\ &= 166 + \frac{77 \times 2}{142} \\ &= 166 + \frac{154}{142} \\ &= 166 + 1.08 \\ &= 167.08\end{aligned}$$

Hence, the median height is approximately 167.1 cm.

*****END*****