Exercise 14G

Question 4:
Arranging the heights of 9 girls in ascending order , we have
143.7, 144.2, 145, 146.5, 147.3, 148.5, 149.6, 150, 152.1
Here n = 9, which is odd

$$\therefore \text{median} = \frac{1}{2}(n+1)\text{th term}$$
$$= \frac{(9+1)}{2}\text{ th term}$$
$$= \text{value of 5th term}$$
$$= 147.3$$
$$\therefore \text{median height} = 147.3\text{ cm}$$

Question 5:
Arranging the weights of 8 children in ascending order, we have
9.8, 10.6, 12.7, 13.4, 14.3, 15, 16.5, 17.2
Here , n= 8 , which is even

$$\therefore \text{median} = \frac{1}{2}\left[\left[\left(\frac{n}{2}\right)\right]\text{thterm} + \left(\frac{n}{2}+1\right)\text{th term}\right]$$
$$= \frac{1}{2}\left[(4\text{th term} + 5\text{th term})\right][\because n = 8]$$
$$= \frac{1}{2}(13.4+14.3)$$
$$= \left(\frac{1}{2}x27.7\right) = 13.85$$
$$\therefore \quad \text{median weight} = 13.85\text{ kg}$$

Question 6:
Arranging the ages of teachers in ascending order , we have
32, 34, 36, 37, 40, 44, 47, 50, 53, 54
Here, n =10, which is even

$$\therefore \text{median} = \frac{1}{2}\left[\left[\left(\frac{n}{2}\right)\right]\text{thterm} + \left(\frac{n}{2}+1\right)\text{th term}\right]$$

$$= \frac{1}{2}\left[(5\text{th term} + 6\text{th term})\right][\because n = 10]$$

$$= \frac{1}{2}(40+44)$$

$$= \left(\frac{1}{2}x84\right) = 42$$

$\therefore$ median age =42 years

********** END **********