Exercise 7.6

1. Find the median of the following data :
   (*a*) 31, 38, 27,28, 36,25, 35,40.
   (*b*) 12,17, 3,14, 5, 8, 15.
   (*c*) 25, 34, 31, 23,22,26, 35,29,20,32.
   (*d*) 83, 37, 70, 29, 45, 63, 41, 70, 30, 54.
2. The weight (in kg) of 16 students of a class are given below. Determine the median of the data:

   43.8, 61.3, 58.5, 40, 51.8, 60, 58.5, 62.1, 47.8, 48.2, 55.7, 50.8, 38.8, 54.6, 54, 42.5.
3. (*a*) If 3, 8, 10, x, 14, 16, 18, 20 are in ascending order and their median is 13, find the value of x.
   (*b*) The mean of 1, 7, 5, 3, 4, 4 is k. The numbers **3,** 2, 4, 2, 3, 3, p have mean $k - 1$ and median q. Find p and q.

4. The heights (in cm) of 14 students of a class are given below. Determine the median of the data 151.7, 160.3, 149.1, 148.6, 153.8, 155.0, 148.4, 161.2, 150.8, 158.5, 155.3, 153.2, 160.1, 146.9.

5. (*a*) Find the median of first ten prime numbers.

(*b*) Find the median of the first ten multiples of 5.

(*c*) The mean of first 8 observations is 18 and last 8 observations is 20. If the mean of all 15 observations is 19, find the 8th observation.

[*CBSE Sample Paper*, 2013]

6. (*a*) The median of 6, 7, $x - 2$, x, 17 and 20, written in increasing order is 16. Determine x.

(*b*) The monthly incomes (in ₹) of 18 workers in a factory are given below. Find the median of the data:

2,500, 2,100, 4,050, 3,275, 2,427, 1,890, 3,750, 4,500, 2,500, 2,970, 3,800, 4,360, 2,225, 3,000, 1,975, 3,650, 4,200, 3,050.

7. Calculate the median of the following data : 133, 73, 89, 108, 94, 140, 94, 85, 100, 120.

8. The median of the following observations arranged in ascending order is 24. Find the value of x.

11, 12, 14, 18, $x + 2$, $x + 4$, 30, 32, 35, 41. [*CBSE Sample Paper* 2013]

9. Find the median of the following data:

19, 25, 59, 48, 35, 31, 30, 32, 56.

If 25 is replaced by 52, what will be the new median?

10. (*i*) Find the median of the data: 26, 56, 32, 33, 60, 17, 34, 20 and 45. If 26 is replaced by 62, find the new median. [*CBSE* 2011]

(*ii*) The median of 10 observations arranged in ascending order is 24, 11, 12, 13, 16, $x + 2$, $x + 4$, 30, 32, 35, 41. Find the value of x. [*CBSE* 2010]

(*iii*) If a team scored following no. of goals in 10 matches then find mean and median of data given:

2, 3, 4, 5, 0, 1, 3, 5, 4, 3. [*CBSE* 2010]

Answers

1. (*a*) 33 (*b*) 12 (*c*) 27.5 (*d*) 49.5

2. 52.9 kg **3.** (*a*) 12 (*b*) $p = 4$ and $q = 3$

4. 153.65 cm **5.** (*a*) 12 (*b*) 27.5 (*c*) 19

6. (*a*) 17 (*b*) ₹ 3025

7. 97 **8.** 21 **9.** 32; 35

10. (*i*) 33; 34 (*ii*) $x = 21$ (*iii*) mean = 3; median = 3