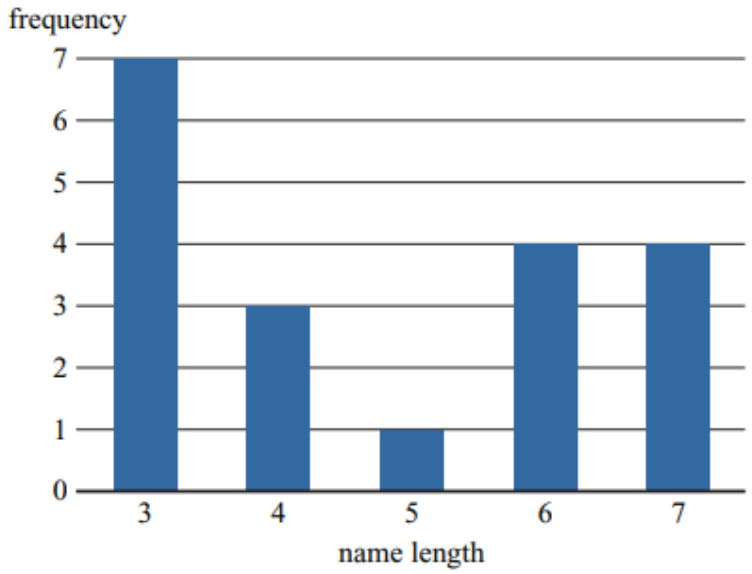
2016 Q6

6. The following bar graph represents the length (in letters) of the names of 19 people. What is the median length of these names?

(A) 3 **(B)** 4 **(C)** 5 **(D)** 6 **(E)** 7

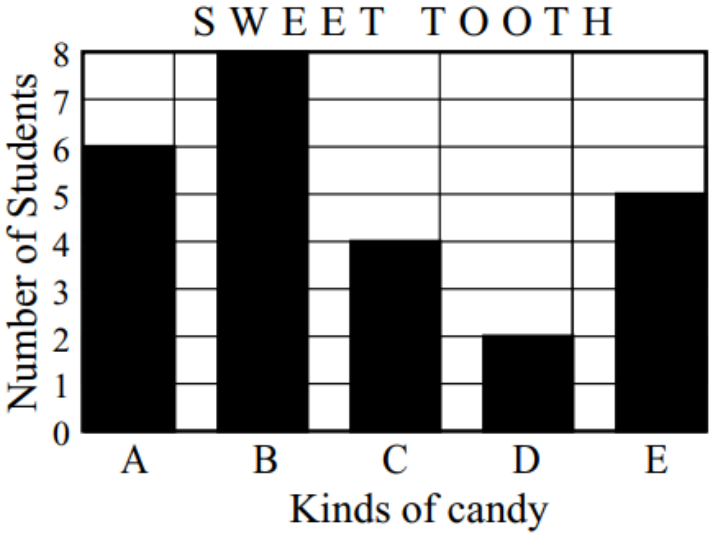


6. Answer (B):

The 19 name lengths are 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 5, 6, 6, 6, 6, 7, 7, 7, 7. The tenth value, 4, is the median.

2002 Q7

7. The students in Mrs. Sawyer's class were asked to do a taste test of five kinds of candy. Each student chose one kind of candy. A bar graph of their preferences is shown. What percent of her class chose candy E?



(A) 5 **(B)** 12 **(C)** 15 **(D)** 16 **(E)** 20

7. **(E)** There are $6+8+4+2+5=25$ students. Of the 25 students 5 prefer candy E and $\frac{5}{25}=\frac{20}{100}=20\%$.

2007 Q7

7. The average age of 5 people in a room is 30 years. An 18-year-old person leaves the room. What is the average age of the four remaining people?

(A) 25 **(B)** 26 **(C)** 29 **(D)** 33 **(E)** 36

7. **(D)** Originally the sum of the ages of the people in the room is $5 \times 30 = 150$. After the 18-year-old leaves, the sum of the ages of the remaining people is $150 - 18 = 132$. So the average age of the four remaining people is $\frac{132}{4} = 33$ years.

OR

The 18-year-old is 12 years younger than 30, so the four remaining people are an average of $\frac{12}{4} = 3$ years older than 30.

2003 Q7

7. Blake and Jenny each took four 100-point tests. Blake averaged 78 on the four tests. Jenny scored 10 points higher than Blake on the first test, 10 points lower than him on the second test, and 20 points higher on both the third and fourth tests. What is the difference between Jenny's average and Blake's average on these four tests?

(A) 10 **(B)** 15 **(C)** 20 **(D)** 25 **(E)** 40

7. **(A)** Blake scored a total of $4 \times 78 = 312$ points on the four tests. Jenny scored $10 - 10 + 20 + 20 = 40$ more points than Blake, so her average was $\frac{352}{4} = 88$, or 10 points higher than Blake's.

OR

The total point difference between Jenny's and Blake's tests was $10 - 10 + 20 + 20 = 40$ points. The average difference is $\frac{40}{4} = 10$ points.

2012 Q7

7. Isabella must take four 100-point tests in her math class. Her goal is to achieve an average grade of at least 95 on the tests. Her first two test scores were 97 and 91. After seeing her score on the third test, she realized that she could still reach her goal. What is the lowest possible score she could have made on the third test?

(A) 90 **(B)** 92 **(C)** 95 **(D)** 96 **(E)** 97

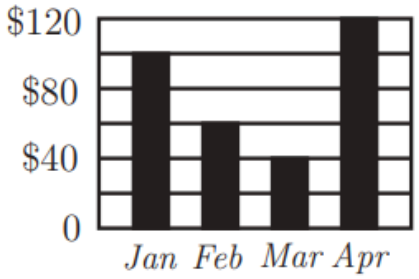
7. **Answer (B):** To achieve an average grade of 95 on the four tests, Isabella must score a total of $4 \times 95 = 380$ points. She scored a total of $97 + 91 = 188$ points on her first two tests, so she must score a total of at least $380 - 188 = 192$ points on her last two tests. Because she can score at most 100 on her fourth test, she must have scored at least 92 on her third test.

OR

Isabella's first score was $95 + 2$, her second score was $95 - 4$, and her fourth score can be at most $95 + 5$. Because she can still achieve an average score of 95, her third score must have been at least $95 - 2 + 4 - 5 = 92$.

2008 Q8

8. Candy sales of the Boosters Club for January through April are shown. What were the average sales per month in dollars?



(A) 60 **(B)** 70 **(C)** 75 **(D)** 80 **(E)** 85

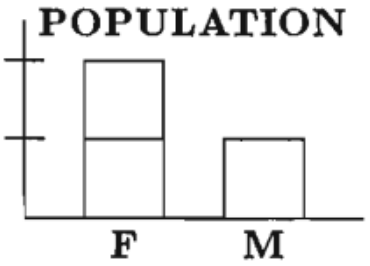
8. **Answer (D):** The sales in the 4 months were \$100, \$60, \$40 and \$120. The average sales were $\frac{100+60+40+120}{4} = \frac{320}{4} = \$80.$

OR

In terms of the \$20 intervals, the sales were 5, 3, 2 and 6 on the chart. Their sum is $5+3+2+6 = 16$ and the average is $\frac{16}{4} = 4$. The average sales were $4 \cdot \$20 = \$80$.

1992 Q9

9. The population of a small town is 480. The graph indicates the number of females and males in the town, but the vertical scale-values are omitted. How many males live in the town?



(A) 120 **(B)** 160 **(C)** 200
(D) 240 **(E)** 360

9. **(B)** The ratio of males to the total population is 1 to 3. Thus, there are 1/3 of 480, or 160 males in the town.

2004 Q9

9. The average of the five numbers in a list is 54. The average of the first two numbers is 48. What is the average of the last three numbers?

(A) 55 **(B)** 56 **(C)** 57 **(D)** 58 **(E)** 59

9. **(D)** The sum of all five numbers is $5 \times 54 = 270$. The sum of the first two numbers is $2 \times 48 = 96$, so the sum of the last three numbers is $270 - 96 = 174$. The average of the last three numbers is $\frac{174}{3} = 58$.

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2008 Q10

10. The average age of the 6 people in Room A is 40. The average age of the 4 people in Room B is 25. If the two groups are combined, what is the average age of all the people?

(A) 32.5 **(B)** 33 **(C)** 33.5 **(D)** 34 **(E)** 35

10. **Answer (D):** The sum of the ages of the 6 people in Room A is $6 \times 40 = 240$. The sum of the ages of the 4 people in Room B is $4 \times 25 = 100$. The sum of the ages of the 10 people in the combined group is $100 + 240 = 340$, so the average age of all the people is $\frac{340}{10} = 34$.