

12-3 Practice

Form K

Measures of Central Tendency and Dispersion

Find the mean, median, and mode of each data set. Which measure of central tendency best describes the data?

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| <p>1. price per item:
\$12 \$8 \$15 \$20 \$15
mean: 14; median: 15; mode: 15;
median or mode</p> | <p>2. average rate (rev/sec):
75 81 79 68 79
mean: 76.4; median: 79; mode: 79;
median or mode</p> |
| <p>3. distance from the park (km):
2.2 3 4.1 3.5 3 2.5
mean: 3.05; median: 3; mode: 3;
median or mode</p> | <p>4. extra points kicked:
3 5 3 2 4
mean: 3.4; median: 3; mode: 3;
median or mode</p> |

Find the value of x so that the data set has the given mean.

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| <p>5. 14, 10, 17, 9, x; mean 14 20</p> | <p>6. 101, 92, 76, 88, x; mean 93 108</p> |
| <p>7. 2.5, 6.1, 7.8, 3.7, x; mean 5.04 5.1</p> | <p>8. 22.6, 32.9, 29.7, 19.8, x; mean 26.5 27.5</p> |
| <p>9. 0.9, 1.6, 3.4, 0.5, x; mean 1.4 0.6</p> | <p>10. 77, 100, 92, 84, x; mean 88 87</p> |
11. One runner's times in the first six races of the year were 18.5, 18.2, 19, 18.75, 19.1, and 19 minutes. Another runner's times were 17.2, 18, 17.5, 18.75, 19, and 18.2 minutes. What are the range and mean of each runner's scores? Use your results to compare the runners' skills.
Range₁ = 0.9 min; Range₂ = 1.8 min; Mean₁ = 18.76 min; Mean₂ = 18.1 min; The second runner has a faster average but is more sporadic than the first runner.

Find the range and mean of each data set. Use your results to compare the two data sets.

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| <p>12. Set A: 17 13 21 10 14
Set B: 12 16 15 11 13
Range_A = 11; Range_B = 5; Mean_A = 15;
Mean_B = 13.4; Set A has a larger range
and mean than Set B.</p> | <p>13. Set C: 5.6 4.8 3.7 7.1 9.2
Set D: 10 5.2 3.8 2.9 6.8
Range_C = 5.5; Range_D = 7.1;
Mean_C = 6.08; Mean_D = 5.74; Set
C has a smaller range but a larger
mean than Set D.</p> |
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14. The lengths of some pieces of lumber are 6 ft, 12 ft, 9 ft, 11 ft, and 8 ft. What are the mean, median, mode, and range of the lengths?
mean: 9.2; median: 9; no mode; range: 6

12-3

Practice (continued)

Form K

Measures of Central Tendency and Dispersion

Find the mean, median, mode, and range of each data set after you perform the given operation on each data value. Round your answer to the nearest tenth.

15. 8, 12, 10, 7, 4, 7; subtract 1
**mean: 7; median: 6.5; mode: 6;
range: 8**
16. 37, 32, 35, 41, 48, 36; add 3
**mean: 41.2; median: 39.5; no mode;
range: 16**
17. 16.2, 16.7, 16.1, 16, 16.9, 16; add 3.5
**mean: 19.8; median: 19.65;
mode: 19.5; range: 0.9**
18. 19, 12, 15, 14, 21, 9; divide by 3
**mean: 5; median: 4.8; no mode;
range: 4**
19. 7.5, 14.2, 11.8, 19.6, 4.8, 11.8; multiply by 2
**mean: 23.23; median: 23.6;
mode: 23.6; range: 29.6**
20. 2.1, 3.2, 4.5, 4.2, 3.2, 5.6; add -2
**mean: 1.8; median: 1.7;
mode: 1.2; range: 3.5**
21. The lengths of George's last five road trips were 6 hr, 4 hr, 8 hr, 12 hr, and 10 hr. Jenny's last five trips were 6 hr, 9 hr, 2 hr, 15 hr, and 4 hr. Find the mean, median, mode, and range of George's trips and Jenny's trips. Use your results to compare each person's travels.
Range_G = 8 hr; Range_J = 13 hr; Mean_G = 8 hr; Mean_J = 7.2 hr; Jenny has the larger range in length, but, on average, George's trips are longer.
22. The goalkeeper had 7 saves, 4 saves, 9 saves, 12 saves, 2 saves, 7 saves, and 5 saves in the first seven games of the season. How many saves must the goalkeeper make in the next game to achieve an average of 8 saves per game?
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23. Over six months, a phone bill averaged \$35 per month. The bills for the first five months were \$32, \$35, \$48, \$29, and \$31. What was the phone bill in the sixth month? Find the median, mode, and range of the six electric bills.
\$35; mean: \$35; median: \$33.50; mode: \$35