

Hannah is interested in knowing how many different ways there are for her to put together different 'outfits' from the clothing she owns. She owns 4 pair of pants, 3 different shirts and 2 pairs of shoes. How many different possible combinations of outfits could she put together?

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James wants to know how many students in his school like to watch soccer. Which of the following strategies should he use?

- a. Invite people over to his house to watch soccer and keep track of how many come.
- b. Count the number of people in P.E. who participate when the class plays soccer.
- c. Take a random sampling of people at a professional soccer game.
- d. Take a random sampling of people in the mall.

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Mrs. Stein, the superintendent of the district, wants to change one of her school's colors. She decides to take a survey of the student body to see what they think might be a good idea for a the new colors. If she only has 200 surveys, what is the best way she can decide which 200 students to survey.

- a. Take the students with the 50 best grades in each of the four classes .
- b. Take the 200 tallest students .
- c. Ask the teachers to provide a list of their favorite students .
- d. Have a computer randomly select 200 students based on their student I.D. numbers.

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At a local lake, 500 fish are caught, tagged, then released back into the lake. A month later 500 more fish were caught. If 175 of these fish were tagged, what is a reasonable estimate for the total number of fish in the lake? Show your work.

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In an algebra class of 31 people, 16 scored between 70% - 80% on their last test. Which of the following must be true?

- a. The mode of the test scores will fall between 70%-80% .
- b. The median of the test will fall between 70% - 80%.
- c. The mean of the test will fall between 70% - 80%.
- d. The minimum score is closer to the mode score than the maximum.

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Consider the set of numbers below:

50, 50, 54, 56, 60, 60, 60, 68, 75, 81, 83

Which of the following will be the highest for this set of numbers?

- a. Median
- b. Mean
- c. Mode
- d. Range

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