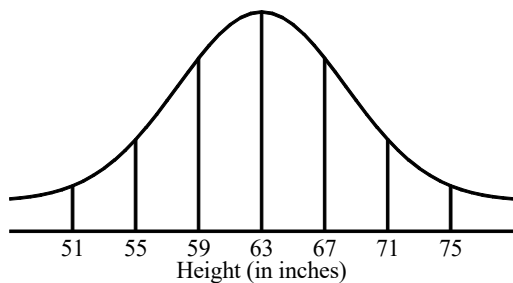


- A set of data that is normally distributed has a mean of 35.6 and standard deviation of 2.5. Which of the following is between 1 and 2 standard deviations of the mean?
[A] 41.2 [B] 29 [C] 34.1 [D] 38.3
- The lengths of a certain species of fish was found to be normally distributed. The mean length is 78 cm with a standard deviation of 14 cm. In a school of 370 of these fish, how many would be longer than 92 cm?
[A] 126 [B] 50 [C] 59 [D] 361
- The heights of a certain group of adult parrots was found to be normally distributed. The mean height is 34 cm with a standard deviation of 8 cm. In a group of 400 of these birds, how many would be more than 18 cm tall?
- The personal savings of the Young Saver Club were normally distributed with a mean of \$975 and a standard deviation of \$88. What is the probability that a randomly selected saver has an account total between \$1063 and \$1151?
[A] 0.68 [B] 0.34
[C] 0.025 [D] 0.135
- The personal savings of the Young Saver Club were normally distributed with a mean of \$825 and a standard deviation of \$64. What is the probability that a randomly selected saver has an account total between \$825 and \$889?
[A] 0.025 [B] 0.135
[C] 0.34 [D] 0.68
- Last year, the personal best high jumps of track athletes in a nearby state were normally distributed with a mean of 215 cm and a standard deviation of 19 cm. What is the probability that a randomly selected high jumper has a personal best between 253 and 272 cm?
- Last year, the personal best high jumps of track athletes in a nearby state were normally distributed with a mean of 208 cm and a standard deviation of 19 cm. What is the probability that a randomly selected high jumper has a personal best between 227 and 265 cm?

8. The heights of 1000 students at a local school were recorded and found to be approximated by the normal curve below. Which answer could represent the mean and standard deviation for these data?



- [A] 63, 8 [B] 67, 5 [C] 51, 4 [D] 63, 4

9. Compare the quantity in Column A with the quantity in Column B.

Column A

Mean is 15, standard deviation is 4.3; 3 standard deviations above the mean.

Column B

Mean is 35, standard deviation is 2.9; 2 standard deviations below the mean.

- [A] The quantity in Column A is greater. [B] The quantity in Column B is greater.
 [C] The two quantities are equal.
 [D] The relationship cannot be determined on the basis of the information supplied.

10. Use the area feature and the equation for the standard normal curve,

$$y = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}$$

Find the area under the curve for 1.2 standard deviations from the mean.

Algebra II Practice S.ID.A.4: Normal Distributions

www.jmap.org

- [1] D
- [2] C
- [3] 390
- [4] D
- [5] C
- [6] 0.025
- [7] 0.16
- [8] D
- [9] B
- [10] 0.76986 or about 0.77