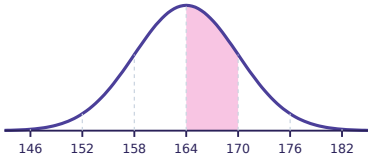
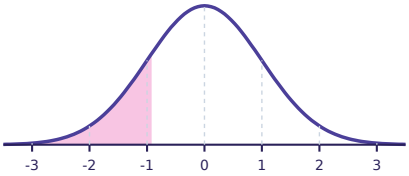
Task card 1 Normal Distribution & z-Scores

The adult heights (cm) are normally distributed with mean 164 and standard deviation 6. Use the 68-95-99.7 rule: what percent of the data lies between 164 and 170?



Task card 2 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z < -0.92). Round to four decimal places.

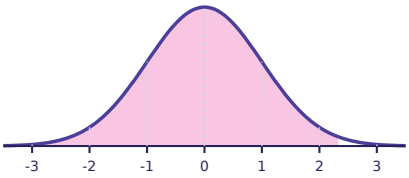


Task card 3 Normal Distribution & z-Scores

The exam scores are normally distributed with mean 68 and standard deviation 8. Find the z-score of a score of 56.

Task card 4 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z < 2.33). Round to four decimal places.

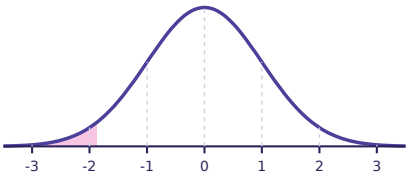


Task card 5 Normal Distribution & z-Scores

The adult heights (cm) are normally distributed with mean 180 and standard deviation 6. What value has a z-score of 1?

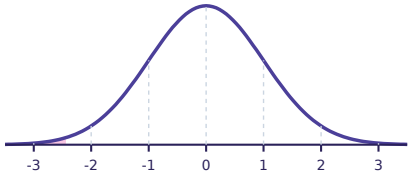
Task card 6 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z < -1.87). Round to four decimal places.



Task card 7 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z < -2.44). Round to four decimal places.

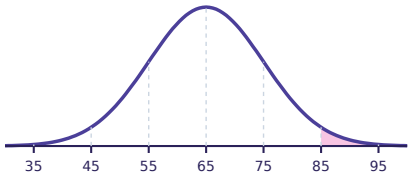


Task card 8 Normal Distribution & z-Scores

The adult heights (cm) are normally distributed with mean 167 and standard deviation 10. What value has a z-score of -2.5?

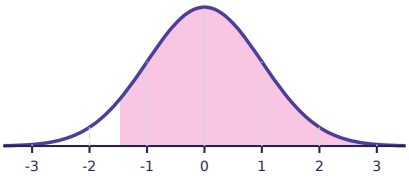
Task card 9 Normal Distribution & z-Scores

The exam scores are normally distributed with mean 65 and standard deviation 10. Use the 68-95-99.7 rule: what percent of the data lies above 85?



Task card 10 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z > -1.47). Round to four decimal places.

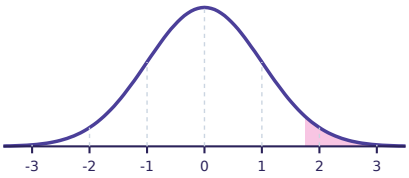


Task card 11 Normal Distribution & z-Scores

The adult heights (cm) are normally distributed with mean 163 and standard deviation 8. Find the z-score of a height of 151.

Task card 12 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z > 1.75). Round to four decimal places.



Task card 13 Normal Distribution & z-Scores

The daily commute times (minutes) are normally distributed with mean 35 and standard deviation 5. What value has a z-score of -2?

Task card 14 Normal Distribution & z-Scores

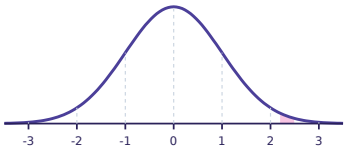
The daily commute times (minutes) are normally distributed with mean 35 and standard deviation 4. What value has a z-score of 3?

Task card 15 Normal Distribution & z-Scores

The adult heights (cm) are normally distributed with mean 167 and standard deviation 6. Find the z-score of a height of 149.

Task card 16 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(2.20 < Z < 2.49). Round to four decimal places.

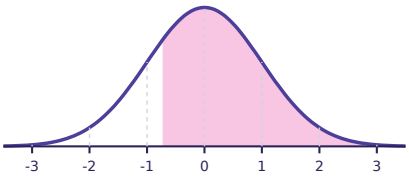


Task card 17 Normal Distribution & z-Scores

The exam scores are normally distributed with mean 71 and standard deviation 8. Find the z-score of a score of 87.

Task card 18 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z > -0.73). Round to four decimal places.



Task card 19 Normal Distribution & z-Scores

The battery lifetimes (hours) are normally distributed with mean 550 and standard deviation 40. What value has a z-score of -1.5?

Task card 20 Normal Distribution & z-Scores

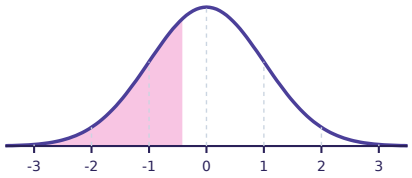
The daily commute times (minutes) are normally distributed with mean 40 and standard deviation 4. Find the z-score of a commute of 28.

Task card 21 Normal Distribution & z-Scores

The daily commute times (minutes) are normally distributed with mean 26 and standard deviation 8. Find the z-score of a commute of 18.

Task card 22 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(Z < -0.42). Round to four decimal places.

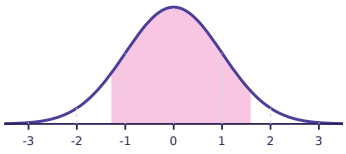


Task card 23 Normal Distribution & z-Scores

The exam scores are normally distributed with mean 73 and standard deviation 4. Find the z-score of a score of 75.

Task card 24 Normal Distribution & z-Scores

Z is a standard normal variable. Find P(-1.29 < Z < 1.59). Round to four decimal places.



Normal Distribution & z-Scores Task Cards

Recording sheet · Grade 12 · Solve each problem. Give percents as numbers (like 81.5) and probabilities to four decimal places.

Name: _____ Date: _____

Scan to check your answers

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Normal Distribution & z-Scores Task Cards: Answer Key

Grade 12 · Hard

The answers online

1. 34	**2.** 0.1788	**3.** -1.5
4. 0.9901	**5.** 186	**6.** 0.0307
7. 0.0073	**8.** 142	**9.** 2.5
10. 0.9292	**11.** -1.5	**12.** 0.0401
13. 25	**14.** 47	**15.** -3
16. 0.0075	**17.** 2	**18.** 0.7673
19. 490	**20.** -3	**21.** -1
22. 0.3372	**23.** 0.5	**24.** 0.8456