Answer on Question #71156 – Math – Statistics and Probability

Question

A student commutes daily from his house to school. On average, the trip one way takes 24 minutes with a standard deviation of 3 minutes. Assume that the data is normally distributed. What is the probability that the trip will take more than half an hour?

Solution

$$z = \frac{30 - 24}{3} = 2$$

Using a standard normal table or technology (for example, MS Excel, function NORM.S.DIST),

$$p(z > 2) = 1 - p(z < 2) = 0.0228.$$

Answer: The probability that the trip will take more than half an hour is 0.0228.