

High School: Trick or Treating

1. Josiah is preparing to pass out candy for Halloween. Children can trick or treat between 6 pm and 8 pm. He has a total of 1000 pieces of candy. Generally, trick or treaters arrive every 30 seconds. Josiah claims that he has sufficient candy for every trick or treater to receive 2 pieces of candy. Do you agree or disagree with Josiah's claim? Justify your decision.

2. Natalie has determined from previous years that she can trick or treat in her neighborhood at a rate of 3.75 houses per minute. This allows time to walk between homes, and to wait if there happens to a line. She only has 90 minutes to trick or treat. On average, each house gives 1.5 pieces of candy. There are 260 homes participating in trick or treating this year. Natalie claims that she has enough time to go to every house in her neighborhood and will get nearly 400 pieces of candy. Do you agree or disagree with Natalie's claims? Justify your answer.

3. Anthony is selecting his bag to go trick or treating. Option 1 is to use a pillowcase (shaped like a cylinder) that is 30 inches long and has an opening that is 18 inches wide. Option 2 is to use a gift bag that is in the shape of a rectangular prism that measures 16 inches tall, 5 inches deep and 12 inches wide. Which option provides greater space to maximize Anthony's trick or treating? Justify your answer.
