

Activity 1: Skittle Machine

King Soopers has a candy machine full of Skittles at the front of the store.

- 1) Suppose that the candy machine currently holds exactly 650 Skittles, and every time someone inserts a quarter, exactly 7 Skittles come out of the machine.
 - (a) How many Skittles will be left in the machine after 20 quarters have been inserted?

 - (b) Will there ever be exactly zero Skittles left in the machine? Explain.

- 2) What if the candy machine gives 7 Skittles to the first customer who put in a quarter, 10 to the second, 13 to the third, 16 to the fourth, etc. How many Skittles has the machine given out after 20 quarters are put into the machine?

- 3) Now, what if the machine gives 4 Skittles to the first customer, 7 to the second, 12 to the third, 19 to the fourth, etc. How many Skittles has the machine given out after 20 quarters are put into the machine?