Lines

A line is a curve that has constant change. Through the following experiment we will see why this is special. Guido’s Online Candy shop sells candies for $2 per pound plus $0.60 per pound for shipping. He also charges a fixed fee of $5 per order.

1. First order: 3 pounds
   (a) How much would an order for 3 pounds cost?
   (b) Plot this point (x coordinate 3, y coordinate cost).
   (c) What is the average cost per pound for this order?
   (d) Plot this average cost point.

2. Second order: 5 pounds
   Repeat the four steps above for 5 pounds.

3. Third order: 10 pounds
   Repeat the four steps above for 10 pounds.

4. Fourth order: 100 pounds
   Repeat the four steps above for 100 pounds.

5. Sketch a curve through the points for (pounds, cost).

6. Sketch another curve through the points for (pounds, average cost).

7. What is the change in cost per pound from 3 to 5 pounds? 3 to 10 pounds?

8. What is the change in average cost per pound from 3 to 5 pounds? 3 to 10 pounds?

9. Which curve is a line?