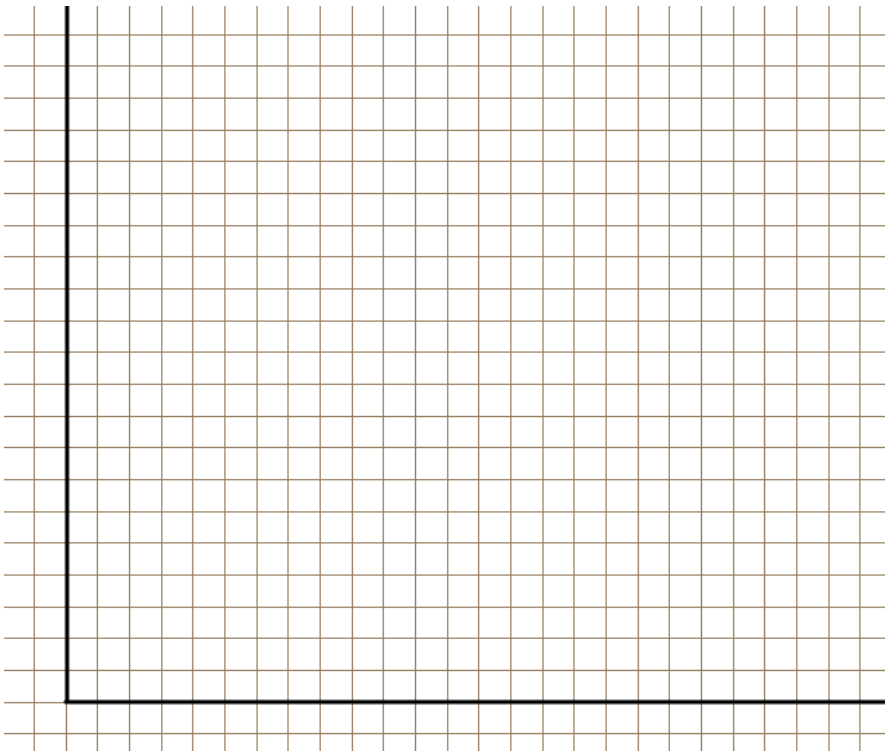
The Olympic record in the women's 100-meter freestyle swim race is 53.52 seconds. It was set by Australian Jodie Henry in 2004. She swam at an average speed of $100 \div 53.52 \approx 1.87$ meters per second.

a. Make a table and a graph showing the way *average speed* for the 100-meter race changes as *time* increases from 40 seconds to 120 seconds (2 minutes) in steps of 10 seconds.

Race time (sec)	40	50	60	70	80	90	100	110	120
Avg. Speed (m/sec)									



b. Describe the pattern of change shown in your table and graph.

c. Write a rule showing how to calculate *average speed* s for any *race time* t.

d. Which change in *race time* will cause the greatest change in *average speed*: an increase from 50 to 60 seconds or an increase from 110 to 120 seconds? Explain how your answer is illustrated in the shape of your graph.