

Identifying Linearity: Uber Fares

The following data was taken on Aug 30, 2017 using Uber and Google Maps (for distance and estimated time for route).

Route	Miles x	Estimated time t	Uber fare U
Westminster College to SLC airport	11.1	14 min	\$18.05
Westminster College to IKEA	19.2	23 min	\$23.97
Westminster College to Gallivan Center	3.9	12 min	\$8.65
Westminster College to The Void	33.6	36 min	\$39.40
Westminster College to Alta Ski Area	23.4	38 min	\$29.31

Let's see if we can figure out how an Uber fare is calculated.

Calculate the slope between each pair of points if miles is used as the independent variable. Then calculate the slope between each pair of points if time is used as the independent variable.

Miles x	Uber fare U	Time t	Uber fare U
11.1	\$18.05	14 min	\$18.05
19.2	\$23.97	23 min	\$23.97
3.9	\$8.65	12 min	\$8.65
33.6	\$39.40	36 min	\$39.40
23.4	\$29.31	38 min	\$29.31

Which independent variable produces a more consistent slope (miles or time)? What is the meaning of that slope?