

Math Mondays!

December 2, 2025

Gift Decisions

As the Christmas season begins, we begin to consider which gifts to purchase for our friends and loved ones. It is important to be a smart shopper and gift giver. Make the most of your purchasing power!

1. Kelvin has asked for an electric skateboard for Christmas. Kelvin lives 4 miles from school. The e-skateboard needs to be able to get him to/from school on one charge. Table 1 shows the specs for the two leading e-skateboards, as well as the current price and sales for each.

Table 1: E-skateboards

Name	Range	Max Speed	Time to Charge	Cost
Backfire G2	11 miles	24 mph	3.5 hours	\$370
Meep Mini 3S	17 miles	30 mph	2.5 hours	\$520

Locally it cost 5¢ per minute to charge an electric vehicle at home. The Meep Mini 3S is currently on sale for 20% off. Which e-skateboard will cost the least amount overall when considering the cost for charging? Justify your answer.

2. The average lifespan of a coffee maker is 4 years, but some high-end models can last up to 10 years. Josh is conducting research to determine which coffee maker to purchase for his mother.

Table 1 provides the price, and any discounts Josh has for each coffee maker.

Table 1: Cost

Coffee Maker	Price	Discount
Coffee Maker #1	\$65	10% off
Coffee Maker #2	\$180	20% off

As part of his research, Josh found a report showing the failure rate (time at which the machine stopped working) of each coffee maker. The report was based on the lifespan of 8000 of each coffee maker. Josh wants to know how long each maker is expected to last and how that relates to the overall cost.

Figures 1 and 2 show the failure rate by year for two coffee makers.

Figure 1: Coffee Maker #1

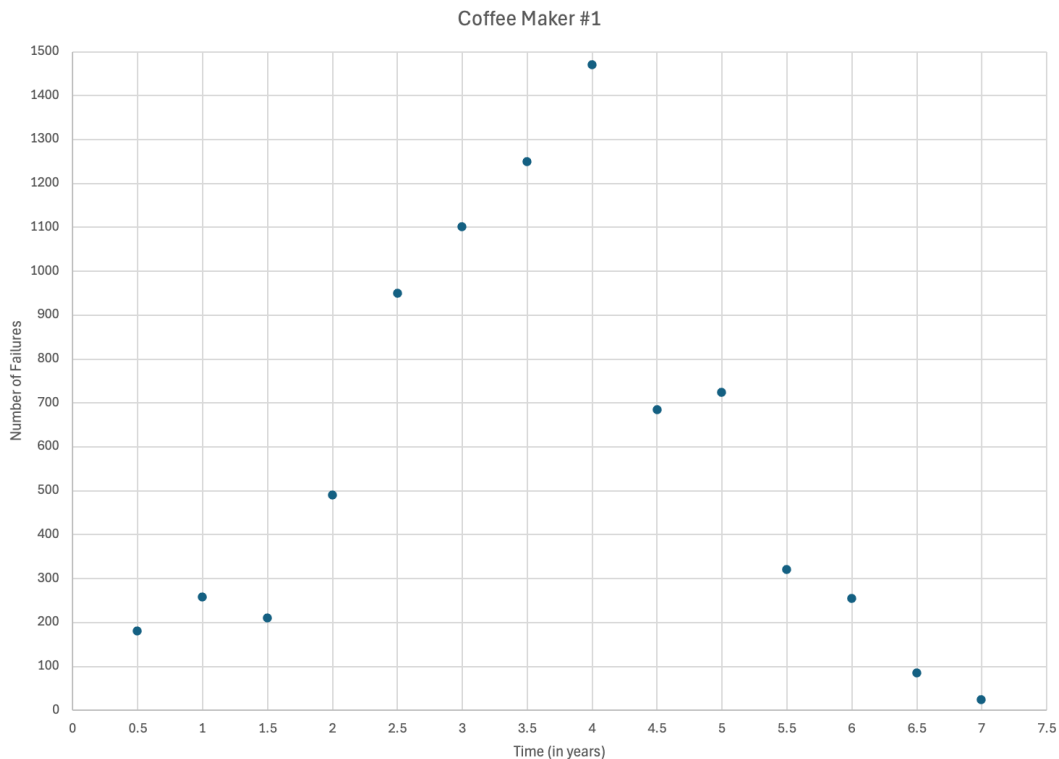
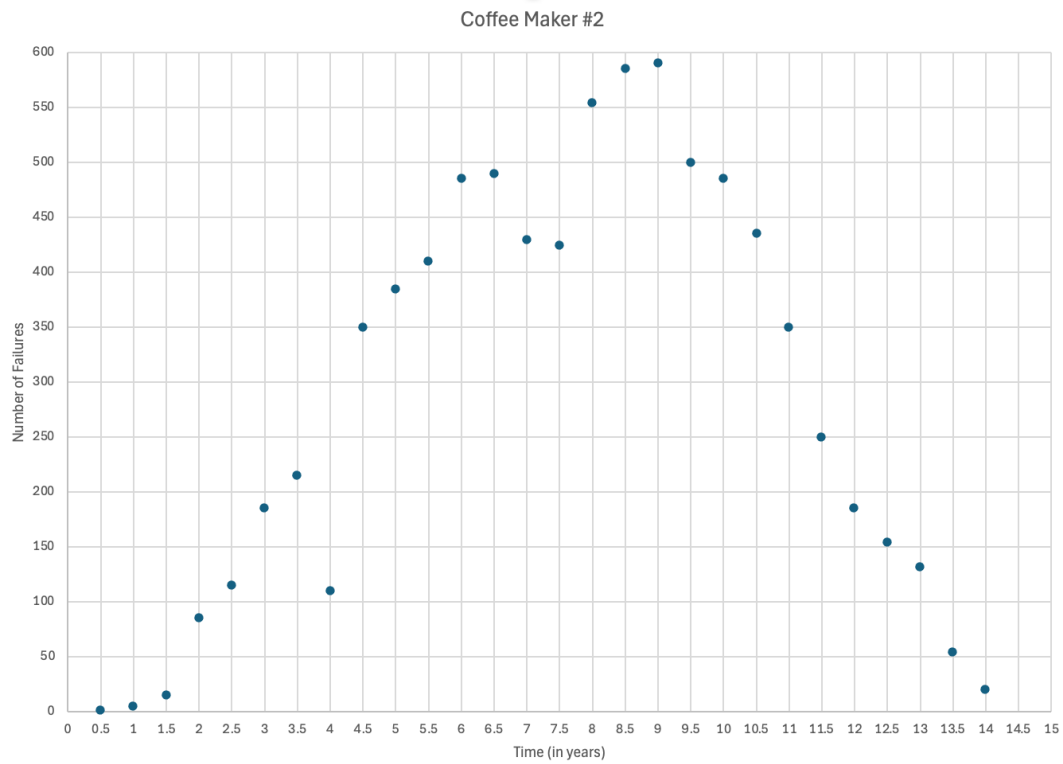


Figure 2: Coffee Maker #2



Which coffee maker do you recommend? Justify your decision.
