The EV Revolution / Should Noah Buy an EV / Christmas Road Trip

The electric vehicle (EV) revolution has been a bumpy road, but the number of EVs sold each year continues to grow. As infrastructure problems are solved (number of charging stations, better batteries, etc.) EVs may become the future.

The chart below list sales of EVs in the U.S. starting in 2000.

Type of EV	2000	2005	2010	2015	2020	2021	2022	2023
Hybrid Electric	9,350	205,876	274,648	384,400	455,067	798,992	N/A	N/A
Plug-in Hybrid Electric	0	0	326	42,959	69,049	173,457	N/A	N/A
Electric (BEV)	0	0	0	71,064	238,540	459,426	586,965	873,082*

* thru 9/30/2023

1. Calculate the percentage increase in Electric (BEV) vehicle sales during each period.

   2015 to 2020: _____% (2020 — 2015) / 2015

   2020 to 2021: _____%

   2021 to 2022: _____%

   2022 to 2023: _____%

2. Noah is considering buying an electric car. Read each of the statements below and decide if it is true or false in regard to Noah buying an EV.

1) The federal government will give Noah a tax rebate if he buys an EV	T / F
2) Noah will find charging stations conveniently located at most gas stations	T / F
3) A small EV is a good choice for Noah's short range city driving	T / F
4) Noah can charge his EV as easily and quickly as pumping gas	T / F
5) Noah can expect a typical driving range of over 500 miles with a full charge	T / F
6) An EV will be significantly less expensive than a gas or hybrid car	T / F
7) Once he buys an electric car, he will have no maintenance or operating costs. Just plug and go .	T / F
8) Noah will need to ask if there are charging stations in his apartment complex	T / F
9) Battery packages are inexpensive to replace	T / F
10) Electric cars have no negative impact on the environment	T / F
11) There will be less normal maintenance cost with an electric car than with a gas or hybrid	T / F
12) Noah's EV battery range will be lower in cold weather	T / F
13) Noah's EV will be very quiet	T / F
14) The 2 charging stations at his apartment complex should make overnight charging simple.....	T / F

3. Noah bought a new Chevy Equinox EV. He has decided to take his first long road trip by driving it to his parents' house for Christmas. It is a drive of 350 miles. He knows where he will stop and charge his batteries after 210 miles and have lunch while he is charging. Noah's EV gets 3 miles per kWh of battery charge. If he is charged $ .40 cents per kWh, what will it cost to fully charge his batteries so he can finish his trip?

   $ _____

   Charging Cost = (distance driven / miles per kWh) X cost per kWh