Applications of Linear Equations – Discussion Questions

What to do:
1. The class will be divided into groups of 6. Within each group, students will be given a number from 1-6.
2. All students with the same assigned number will meet to form a new group. For instance, all those who were given the number 1 will form a group. Within the new group, they will be responsible for discussing the question that corresponds to their group number. Each student is responsible for jotting down notes from their discussion.
3. All students will return to their original group of 6. Within their original group, they will be responsible for sharing what they learned so that all group members have an understanding of the question and answers.

The questions:

1. What information do the vertical and horizontal intercepts provide about a linear function? Use an example in your explanation.

2. How can you tell from a graph whether a linear function has a positive or negative rate of change?

3. When a situation can be described by a linear function, why doesn't it matter which pair of points you choose to determine the rate of change?

4. How can properties of linear functions be used to solve real-world problems? Include examples with your explanation.

5. Explain why knowing the intercepts and the rate of change of the graph of a linear function may be helpful when you solve problems. Include examples in your explanation.

6. A Smart car and an SUV have full fuel tanks, and both cars are driven on city roads until their tanks are empty. The graphs below show their fuel consumption. Use the graphs to decide which type of vehicle is more economical. Be sure to support your choice with the appropriate math.