



## **The Speeding Ticket**

The fine for speeding on the highways of most states is a function of the speed of the car. The speeding fine can be determined by a linear equation, where **f** represents the fine in dollars and **m** represents the number of miles the car is EXCEEDING the 70 mph speed limit.

In Connecticut, the speed limit on federal highways is 70 miles per hour (mph). The speeding fine can be determined by the formula:

$$f(m) = 10m + 40$$

Where **f** represents the fine in dollars and **m** represents the number of miles the car is EXCEEDING the 70 mph speed limit.

1. What would your speeding fine be if you were traveling 78 mph? Show all work or explain in words how you arrived at your answer.
2. Suppose you received a speeding ticket for \$200. How fast were you going? Explain how you arrived at your answer.
3. The minimum speeding fine in Connecticut is \$90. What speed corresponds to this fine? Show your work or explain your solution in words.
4. The maximum speeding fine in Connecticut is \$340. What speed corresponds to this fine? Show your work or explain your solution in words.
5. Explain why it is unlikely for someone to receive a \$50 speeding fine in Connecticut. Justify your answer mathematically.

