Evaluate: How important is a decimal place?

Name _____   **Period** _____   **Date** _____

The distance a car travels is found by multiplying the tire's circumference times the number of rotations. Remember that circumference is found by multiplying pi(π) times the diameter of the circle.

Distance= circumference X # of rotations

The speed of a car is found by dividing the distance by the time it took to travel that distance.

Speed= distance/ time   (12inches = 1Foot; 5280Feet = 1mile)

1. A car has tires with a 30 inch diameter. Every minute the tires rotate 60 times. If a new car manufacturer decided to use π=3.0, how would the actual and calculated speed differ? Show all of your calculations and write an answer statement at the bottom. Be sure your units are miles per hour.

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2. Car factories calibrate their cars' speed based on the tire size. When you change the size of the tire, you cannot make adjustments to the speed calculations. You buy a car with 32 inch diameter tires, but you want to add bigger tires. You install 39 inch diameter tires. The police pull you over. Are you going too fast or too slow? By how much? Show all of your work!

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