

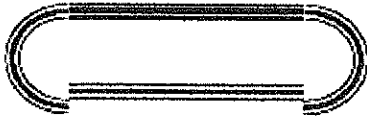
Multi-step problems involving diameter, radius, and circumference

Name: _____

Date: _____

Explain all work and make sure you show the formulas you are using to answer each question.

1. Elizabeth has designed a small oval racetrack for her remote control car. Her design is shown in the following figure. She has two curves, each of which is half of a circle. She also has two straight-aways that she wants to connect to the circles. The curves are on a radius of sixteen inches and the straight-aways are fifty-two inches long. What is the total distance around the track? Round your answer to the nearest whole inch.



1A. If Elizabeth sets up a race for three cars and they have to go around the track 15 times to complete the race what is the total distance the cars will travel? Explain in words what all the numbers mean that you are using to answer this question.

Find the radius of each circle. Final answers should be rounded to the nearest tenth and express your answer in standard form and scientific notation. Make sure you show all work.

2. $C = 62.8$ miles

3. $d = 128$ inches

4. $C = 150$ yards

Find the diameter of each circle. Final answers should be rounded to the nearest tenth if necessary and express your answer in standard form and scientific notation. Make sure you show all work.

5. $r = 39.7 \text{ cm}$

6. $C = 110 \text{ mm}$

7. $C = 54.8 \text{ km}$

Explain all work and make sure you show the formulas you are using to answer each question.

Madison is painting around the edge of a craft item that she is making. It is a circular piece of wood on which she has painted some farm scenery. If she finishes painting around the edge in thirteen minutes and she paints at a speed of three inches per minute, what is the diameter of the circular piece of wood? Round your answer to the nearest tenth of an inch.