

QUIZ / Wheel Size Matters - Rotation

NAME

DATE

CLASS PERIOD

Put a check ☐ in the o next to the correct answer.

1. How does the modified Squarebot differ from the original Squarebot?
 - ☐ The modified Squarebot is battery-powered.
 - ☐ The power setting for the modified Squarebot was increased.
 - ☐ The gears for the front wheels were removed on the modified Squarebot.
 - ☐ The front wheels on the modified Squarebot were replaced by larger wheels.
2. What is kept constant in this investigation?
 - ☐ Wheel size
 - ☐ Type of robot
 - ☐ The distance the robot travels.
 - ☐ Rotations of the motor axles.
3. Which variable is the dependent in this investigation?
 - ☐ The distance the robot travels
 - ☐ Rotations of the motor axles
 - ☐ Wheel size
 - ☐ Type of robot
4. What are systematic errors?
 - ☐ Errors that affect data different ways at different times
 - ☐ Errors that are caused by human judgments
 - ☐ Errors that we are unable to detect
 - ☐ Errors that always affect data the same way
5. What are random errors?
 - ☐ Errors that always affect data the same way
 - ☐ Errors that are caused by human judgments
 - ☐ Errors that affect data different ways at different times
 - ☐ Errors that we are unable to detect
6. Which of the following would most likely be a systematic error?
 - ☐ Measuring the distance the robot travels
 - ☐ Friction
 - ☐ Wheel slippage
 - ☐ None of the above, since they are all random

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7. Interpolation of data values means predicting a new value
- ☐ between existing values
 - ☐ beyond existing values
 - ☐ from a new data set
 - ☐ none of the above
8. Extrapolation of data values means predicting a new value
- ☐ between existing values
 - ☐ from a new data set
 - ☐ beyond existing values
 - ☐ none of the above
9. Given the following five distances measured in inches, calculate the average distance: 43.8in., 47.2 in., 41.1 in., 44.5 in., 42.6 in.
- ☐ 219.2 in.
 - ☐ 43.84 in.
 - ☐ 45.9 in.
 - ☐ 42.6 in.
10. Convert 47.8 in. to centimeters.
- ☐ 18.8 cm.
 - ☐ 12.1 cm.
 - ☐ 188.1 cm.
 - ☐ 121.4 cm.
11. Given the plot shown below (Figure 1), about how far would a wheel with a diameter of 7in. travel in five rotations?
- ☐ 40 in.
 - ☐ 55 in.
 - ☐ 70 in.
 - ☐ 100 in.
12. Given the plot shown below (Figure 1), what is the approximate diameter of a wheel that traveled 110in. in five rotations?
- ☐ 17 in.
 - ☐ 13 in.
 - ☐ 7 in.
 - ☐ 110 in.

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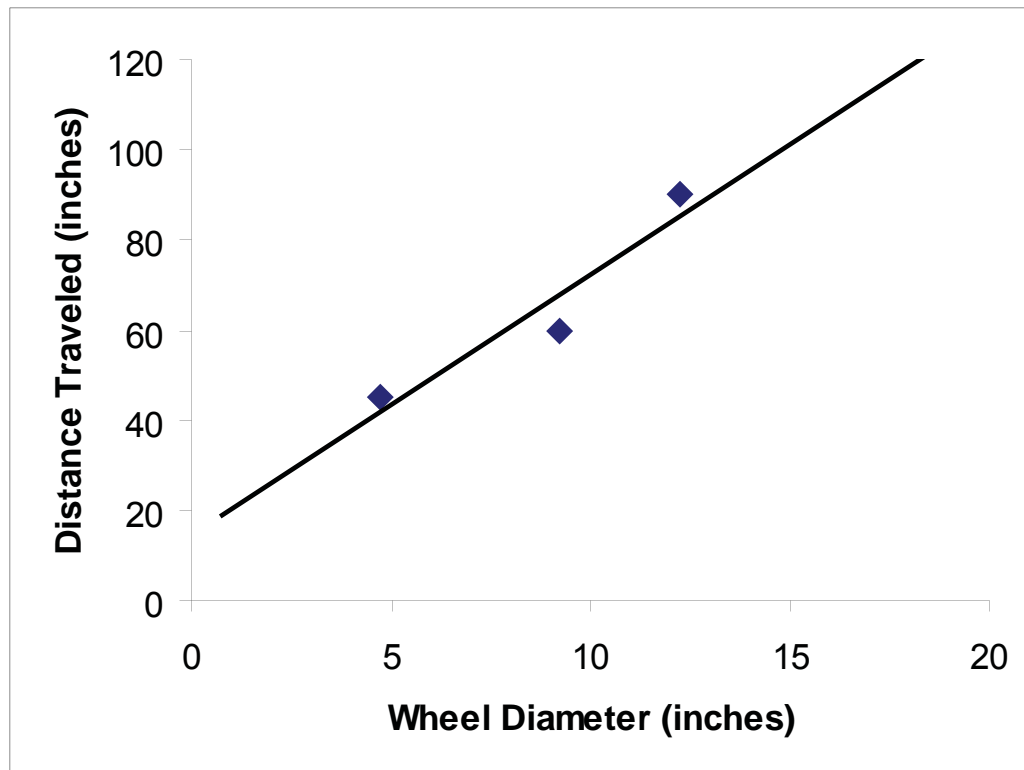


Figure 1: 5 Rotations