

# Wheels Diameter / Distance Traveled



**Radius** is the measurement of a straight line from the center of a circle to the edge. Radius will always equal one half diameter.



**Diameter** is the measurement of a straight line across the center of an object (in this case a wheel).



The **circumference** of a circle is the total distance around its outside. Circumference equals the diameter of the circle times  $\pi$  (pi), which is about 3.14. One revolution of a wheel will make it move a distance equal to its circumference.

## Instructions

Based on the information provided about the wheels shown on these pages, calculate how far they will travel. An example is shown below. Complete the information on the following pages.

## Example

If the wheel below makes one revolution, how far will it go? Use the tables below to find the answer.



	Diameter		$\pi$ (pi)		Circumference
①	1.125"	×	3.14	=	3.53"
	Circumference		Revolutions		Distance
②	3.53"	×	1	=	3.53"

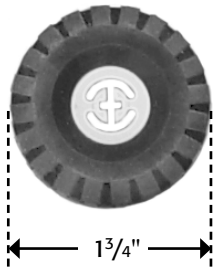
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# Wheels Diameter / Distance Traveled

## Instructions

Based on the information provided about the wheels shown on these pages, calculate how far they will travel.

If the wheel below completes 2.3 revolutions, how far will it go? Use the tables below to find the answer.



	Diameter	$\pi$ (pi)	Circumference
①	<input type="text"/>	$\times$ <input type="text"/>	= <input type="text"/>
	Circumference	Revolutions	Distance
$\pi$ ②	<input type="text"/>	$\times$ <input type="text"/>	= <input type="text"/>

If the wheel below completes  $3\frac{5}{8}$  revolutions, how far will it go? Use the tables below to find the answer.



	Diameter	$\pi$ (pi)	Circumference
①	<input type="text"/>	$\times$ <input type="text"/>	= <input type="text"/>
	Circumference	Revolutions	Distance
②	<input type="text"/>	$\times$ <input type="text"/>	= <input type="text"/>

If the wheel below completes  $4\frac{5}{16}$  revolutions, how far will it go? Use the tables below to find the answer.



	Diameter	$\pi$ (pi)	Circumference
①	<input type="text"/>	$\times$ <input type="text"/>	= <input type="text"/>
	Circumference	Revolutions	Distance
②	<input type="text"/>	$\times$ <input type="text"/>	= <input type="text"/>

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# Wheels Diameter / Distance Traveled

**Questions:**

1. If you want your robot to go 15.748 centimeters and your robot has wheels with diameters of 2.5", how many revolutions must your wheel make?

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2. If there were a wheel that had a circumference of 12.36375 cm, what would the diameter be?

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3. If I wanted my robot to win a 2 meter race, what wheels would I use and how many revolutions would it have to make?  
*(Hint: To win the race, you should try to go the fewest number of revolutions. You may have to go over 2 meters.)*

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