Around and Inside

Circumference and area of circles



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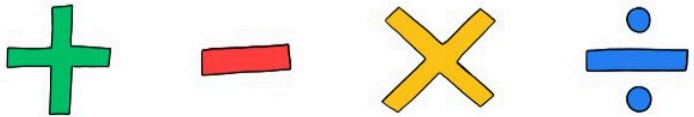
ONE NUMBER FOR EVERY CIRCLE

3.14

times diameter fits around any circle

That number is pi, the same for coins and fields.





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$a^2+b^2=c^2$

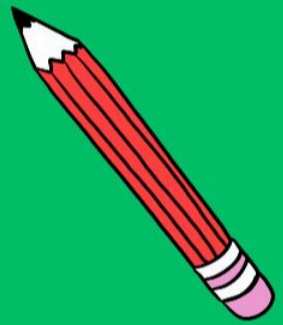
Around vs Inside

Circumference

- Distance around the circle edge
- Measured in inches, feet, centimeters
- Formula C = pi x d or 2 x pi x r

Area

- Space inside the circle edge
- Measured in square inches, cm2
- Formula A = pi x r squared



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Parts you must know

📍

Center

Middle point the same distance from every edge point.

📏

Radius

Distance from center to edge, called r.

↔️

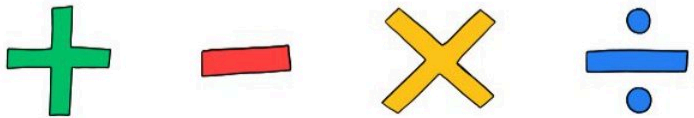
Diameter

Straight distance across through center, twice radius.

🔢

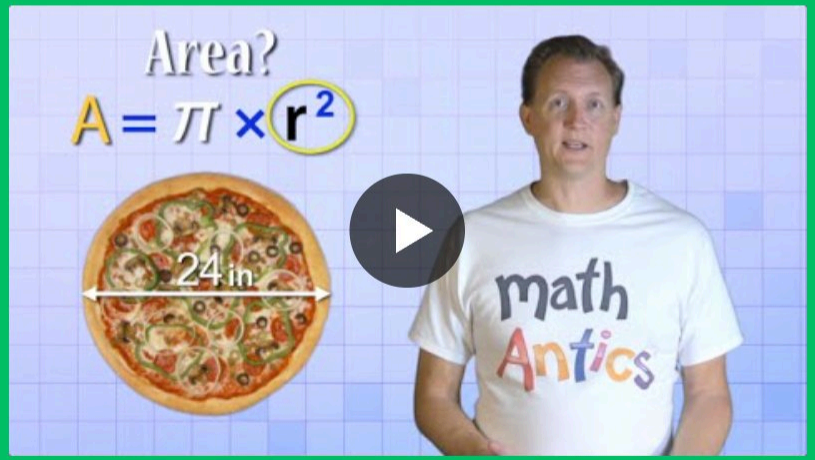
Pi

Ratio of circumference to diameter, about 3.14.



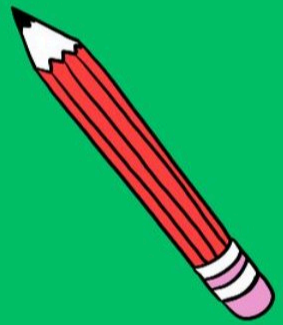
$a^2+b^2=c^2$

Watch: Both formulas together



▶ 0:00 – 5:00

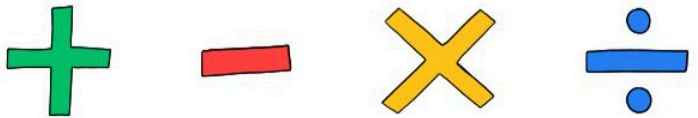
- Listen for when to use diameter or radius
- Spot how pi links both formulas



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One turn tells distance

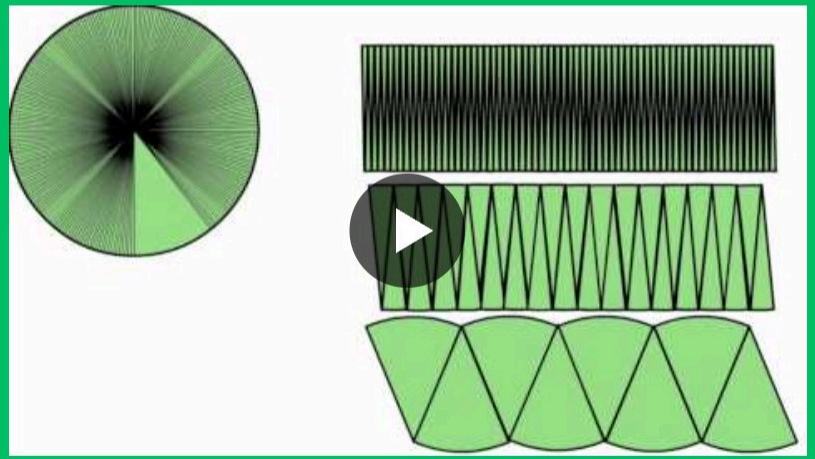
- A wheel moves forward by one circumference each full turn. Measuring around tells how far it rolls.



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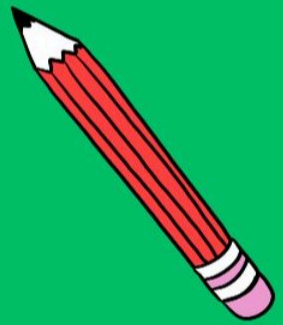
$a^2+b^2=c^2$

Watch: Why is area pi r squared?



▶ 0:00 – 2:47

- Watch how slices become a rectangle
- Listen for length pi x r times r



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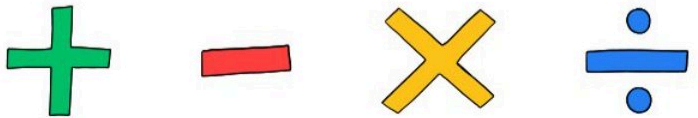
Your task

In pairs, measure a round lid and find its circumference and area.

1. Wrap string around edge, then measure string and diameter in inches
2. Find circumference with C = pi x diameter using 3.14
3. Halve diameter to get radius, then find area with A = pi x r x r

10 min

In pairs



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$a^2+b^2=c^2$

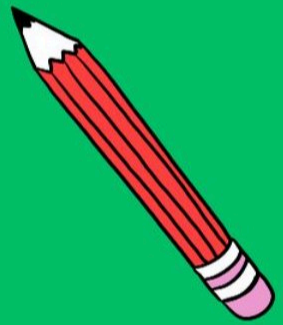
Solve without mix-ups

Pick formula

Around uses C = pi x d, inside uses A = pi x r squared.

Halve first

Given diameter, divide by 2 before using radius.



Square means

r squared means r times r, not r times 2.

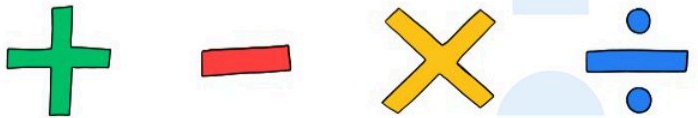
Units tell

Circumference in inches, area in square inches.

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Think, pair, share

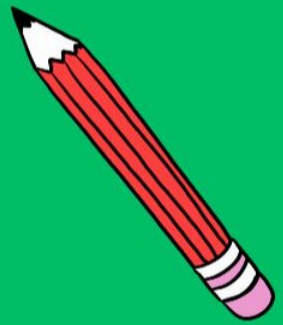
You know only the circumference is 31.4 inches. How can you still find the area?



$a^2+b^2=c^2$

Quick quiz

1. Radius is 3 in. What is circumference? Use 3.14.
2. Radius is 4 cm. What is area? Use 3.14.
3. Diameter is 10 in. What is area? Use 3.14.
4. Circumference is 43.96 m. What is radius? Use 3.14.



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