

Student Task	Take and use the measurements of a scaled drawing to determine whether the height or the circumference of a real cylinder is larger.
Core Idea 4 Geometry And Measurement	Analyze characteristics and properties of two and three-dimensional geometric shapes and apply the appropriate techniques, tools, and formulas to determine measurements. <ul style="list-style-type: none">• Solve problems involving similarity and scale factors, using proportional reasoning.• Develop, understand, and use formulas to determine the circumference of circles. (6th grade)

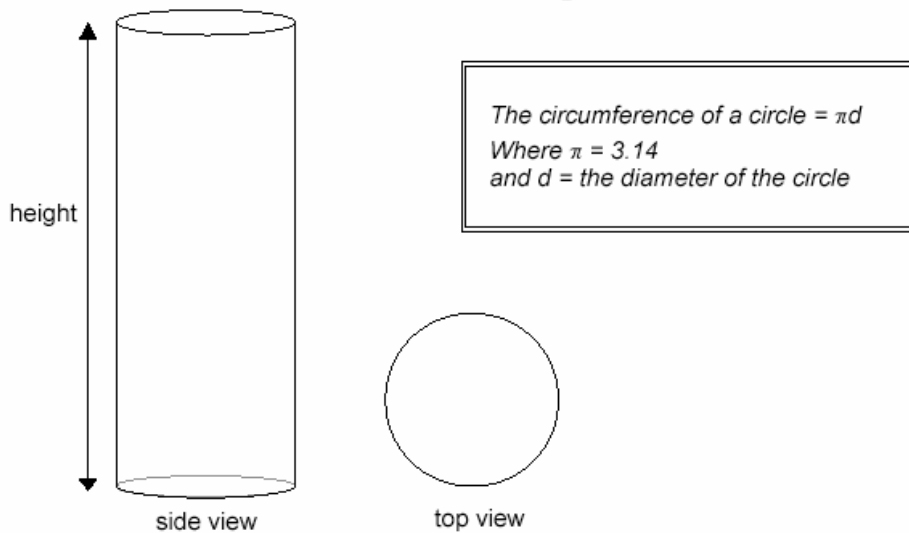
Which is Bigger?

This problem gives you the chance to:

- take measurements from a scale drawing
 - calculate circumference of a circle from the diameter
-

Below is a diagram showing a side view and a top view of a glass vase.

Both views of the glass vase are drawn accurately and are $\frac{1}{2}$ of the real size.



Your job is to decide which is bigger:
the height or the circumference of the **real** vase.

Make sure that you show all of your work.

You should make your measurements in **centimeters**.

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Which is Bigger?		Test 7 Rubric	
The core elements of performance required by this task are: <ul style="list-style-type: none"> • take measurements from a scale drawing • calculate circumference of a circle from the diameter Based on these, credit for specific aspects of performance should be assigned as follows		points	section points
answer	Gives correct answer: The circumference is bigger. The statement must be supported by some correct measurements or reasoning. Accept a correct response based on their findings.	1ft	1
circumference of real vase	Correctly measures the diameter of the circle: 3 cm This value may be implied by finding a correct value for the circumference.	1	4
	Multiplies the diameter by 2 to get: 6 cm	1ft	
	Correctly calculates the circumference of the circle: 18.84 cm	2ft	
	<i>Partial credit</i> Correct attempt to use the formula $C = \pi d$ Shows, say, 6×3.14 ; product not shown or incorrect	(1)	
height of real vase	Correctly measures the height: 8 cm	1	2
	Multiplies the height by 2 to get: 16 cm	1ft	
alternative scaling	Alternatively, works correctly with the measurements of the diagram, and states that if the height of the diagram is smaller than the circumference of the diagram (9.42 cm), then the height of the real vase is smaller than the circumference of the real vase.	or 2	or 2
Total Points			7