Beer Keg Maths

In this exercise you need to know the formula for the volume of a cylinder.

$V = \pi r^2 h$ where V is the volume, r is the radius and h is the height. Use the π button on your scientific calculator so that your answers are accurate.

You also need to know that 1 inch = 2.54 cm and 1000cm^3 = 1 litre.

1 litre = 1.76 pints.

The diagram shows the sizes of some common beer kegs.

W is the width of the keg. This is also the diameter.

What is the capacity of each keg in pints? Calculate the volume of each keg and compare this with the given capacity in litres. Round your answers to the nearest tenth of a litre. Do the answers match? Explain why or why not.

Challenge. Which keg holds most beer compared to its volume?

Use the table overleaf for your answers.

	A	B	C	D	E	F
	Home Brew	20 Litre	Pony Keg	Slim 30	Import / Micro	Full Keg
Name						
Dimensions	23"h x 9"w	24"h x 10"w	14"h x 17"w	24"h x 12"w	21"h x 17"w	24"h x 17"w
Litres	18 Litres	20 Litres	30 Litres	30 Litres	50 Litres	58.7 Litres
Imp. Oz	634 oz	704 oz	1056 oz	1056 oz	1760 oz	2065 oz
Weight	49 lbs	58 lbs	87 lbs	82 lbs	139 lbs	161 lbs
Height with Coupler	29"	30"	20"	30"	26"	30"

Keg	A	B	C	D	E	F
Capacity (pints) (To 2 decimal places)						
Radius cm (To 2 decimal places)						
Volume cm³ (to nearest whole number)						
Volume Litres (to nearest 0.1 litre)						
% of volume that is beer (to nearest whole number)						

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