

The Wonder That Is Pi

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This blog began life more than two decades ago as part of a series of lectures I delivered to very bright first-year engineering students at an Australian university.

The number π (pronounced like “pie”) has been recognized from time immemorial because its physical significance can be grasped easily: it is the ratio of the circumference of a circle to its diameter. But who would have thought that such an innocent ratio would exercise such endless fascination because of the complexities enfolded into it?

Not surprisingly, some students I met recently wanted to know more about π . Accordingly, I have refreshed and revised my original presentation to better accord with the form and substance of a blog. The online references have also been updated to keep up with a rapidly changing Web.

If there are any errors or omissions, please [email](#) me your feedback.

Circumference, diameter and pi

The straight line and circle are arguably among the simplest of geometrical objects. The circle is the most [symmetrical](#) figure on the two-dimensional plane while the straight line is the shortest distance between any two points on it. The [diameter](#) is both the straight line passing through the centre of the circle, intersecting it at two points, and its length. Yet, when we divide the [perimeter](#) of circle, more properly called its [circumference](#), C , by the diameter, d , we get the enigmatic number π :

$$\frac{C}{d} = \pi. \quad (1)$$

?? shows this relationship pictorially.

Acknowledgements

Feedback

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