Circles Problems

Name:_____

$C = \pi d$	$C = 2\pi r$	$A = \pi r^2$

The radius is the distance from the centre to the edge of a circle. The diameter is the total distance across the circle, through the middle. π is the number 3.1415926535897.., but 3.142 is usually good enough.

Use the formulae above to answer the questions below:

(you may use a calculator to help you, but always check that your answers are sensible)

Example:

The London Eye has a diameter of **132 metres**.

$C = \pi d \approx 3.142 \times 132 = 414.744 \, m$

The circumference is __415__ metres.

A 2p coin has a diameter of **25.9mm**.

Its circumference is _____ mm.

The 'General Sherman', a giant sequoia tree, has a diameter of **7.7 metres** at the base.

Its circumference is _____ metres.

The 'door to hell' – a pit of burning gas in Turkmenistan is roughly circular with a circumference of **220 metres**.

The diameter is _____ metres.

The equator of the Earth is **40,075 kilometres** long.

The distance from centre of the Earth to the surface is _____ km.

A typical round straw bale measures **5 feet** in diameter and **4 feet** long.

The binding needed to fit around the outside of the circular bale must be _____ feet long.

Stonehenge was originally a collection of **30 standing stones**, equally spaced around a circle with radius **16 metres**.

The stones would have been around _____ metres apart.

Circles Problems SOLUTIONS

Name:_____

Useful formulae for circles:

$C = \pi d$	$C = 2\pi r$	$A = \pi r^2$

The radius is the distance from the centre to the edge of a circle. The diameter is the total distance across the circle, through the middle. π is the number 3.1415926535897.., *but* 3.142 *is usually good enough.*

Use the formulae above to answer the questions below:

(you may use a calculator to help you, but always check that your answers are sensible)

Example:

The London Eye has a diameter of **132 metres**.

$C = \pi d \approx 3.142 \times 132 = 414.744 \, m$

The circumference is __415__ metres.

A 2p coin has a diameter of **25.9mm**.

$C = \pi d \approx 3.142 \times 25.9 = 81.3778 \, mm$

Its circumference is _____81.4_____ mm.

The 'General Sherman', a giant sequoia tree, has a diameter of **7.7 metres** at the base.

$C = \pi d \approx 3.142 \times 7.7 = 24.1934 \, m$

Its circumference is __24.2__ metres.

The 'door to hell' – a pit of burning gas in Turkmenistan is roughly circular with a circumference of **220 metres**.

$$C = \pi d \implies 220 = 3.142d$$
$$\implies d = \frac{220}{3.142} = 70.019 \dots m$$

The diameter is ___70___ metres.

The equator of the Earth is **40,075 kilometres** long.

$$C = 2\pi r \implies 40075 = 2 \times 3.142r$$
$$\implies r = \frac{40075}{2 \times 3.142} = 6377.307 \dots km$$

The distance from centre of the Earth to the surface is ___6377___ km.

A typical round straw bale measures **5 feet** in diameter and **4 feet** long.

$$C = \pi d = 3.142 \times 5 = 15.71 ft$$

The binding needed to fit around the outside of the circular bale must be ___16___ feet long.

Stonehenge was originally a collection of **30 standing stones**, equally spaced around a circle with radius **16 metres**.

$$C = 2\pi r = 2 \times 3.142 \times 1 = 100.544m$$
$$\frac{100.544}{30} = 3.351 \dots m$$

The stones would have been around ___3.4___ metres apart.