Name: _____ 5-a-day Higher

17th March

Corbettmaths

Write 0.522222.... as a fraction

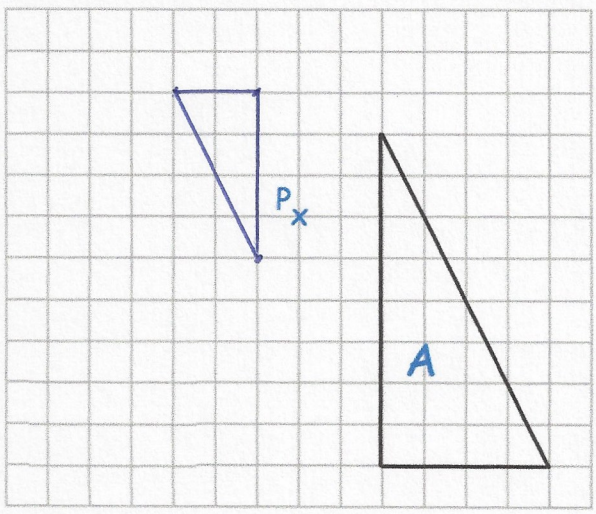
$x = 0.5222...$

$10x = 5.222...$

$100x = 52.22...$

$90x = 47$

$x = \frac{47}{90}$



Enlarge shape A by scale factor $-\frac{1}{2}$, using the point P as centre of enlargement.

Show

$(x + 2)^2 - (x + 2) \equiv (x + 2)(x + 1)$

$(x+2)(x+2) - (x+2)$

$x^2 + 4x + 4 - (x+2)$

$= x^2 + 3x + 2$

$(x+2)(x+1)$

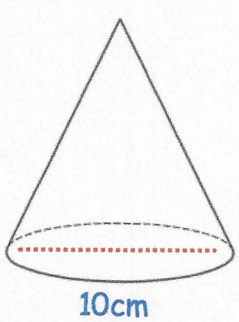
QED

A sphere has the same volume as the cone. Calculate the radius of the sphere.

$\frac{4}{3}\pi r^3 = 314.159...$

$r^3 = 75$

$r = 4.217\text{cm}$



$V = \frac{1}{3}\pi r^2 h$

$= \frac{1}{3}\pi \times 5^2 \times 12$

$= 314.159...$

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