



GCSE MATHEMATICS

S21-C300

Non Calculator Assessment Resource D

Foundation Tier Component 1

Formula list

Area and volume formulae

Where r is the radius of the sphere or cone, l is the slant height of a cone and h is the perpendicular height of a cone:

$$\text{Curved surface area of a cone} = \pi r l$$

$$\text{Surface area of a sphere} = 4\pi r^2$$

$$\text{Volume of a sphere} = \frac{4}{3}\pi r^3$$

$$\text{Volume of a cone} = \frac{1}{3}\pi r^2 h$$

Kinematics formulae

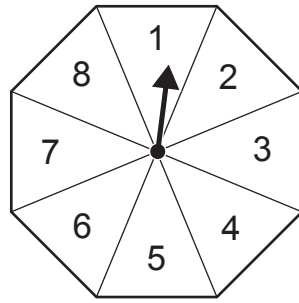
Where a is constant acceleration, u is initial velocity, v is final velocity, s is displacement from the position when $t = 0$ and t is time taken:

$$v = u + at$$

$$s = ut + \frac{1}{2}at^2$$

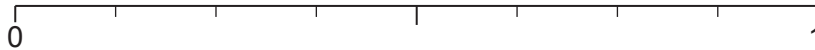
$$v^2 = u^2 + 2as$$

1. (a)

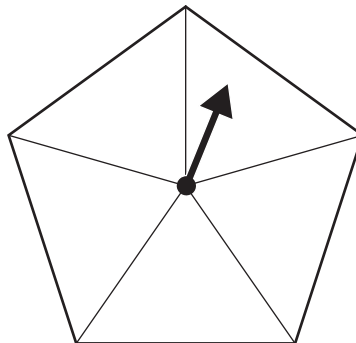


The diagram shows a fair spinner for a simple game.
Rhian needs to score 7 or more with a single spin to win the game.

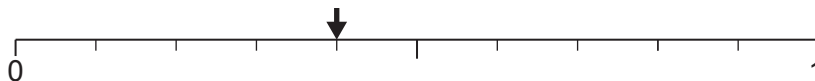
On the probability scale below, mark with an arrow the probability that Rhian wins the game. [1]



(b) Tomas is playing a game with a different fair spinner.
Here is the shape of his spinner.



The arrow on the probability scale below shows the probability that Tomas scores less than 4 with one spin.



Write five numbers on Tomas' spinner so that the scale is correct. [1]

(c) Simon is playing a game.
The probability that he wins the game is 0.7.

What is the probability that Simon does not win his game? [1]

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