



NOV/DEC
2016

DEPARTMENT OF MATHEMATICS
PROBLEM SOLVING CHALLENGE

Q1.

Junior Cycle

Draw a circle of area $25\pi \text{ cm}^2$
If the radius of a circle is decreased 3 cm, by what percentage is
(a) its circumference and (b) its area decreased?

Q2.

Senior Cycle

A cone and a cylinder, made from lead each have a radius r cm and height of $2r$ cm. A sphere is also made from the same material and has also a radius of r cm. Find

- (i) The ratio of the volumes of these lead shapes.
- (ii) The ratio of the curved surface areas of these lead shapes.

Answers on an A4 sheet with your Name, Year and Class should be handed into the office or given to Mr. McEvoy before 4pm on Friday 16th of December.

Monthly Prize for both **Junior** and **Senior** Cycle.*

Good Luck.

Junior Cycle students answer question 1 only.

Senior Cycle students answer question 2 only