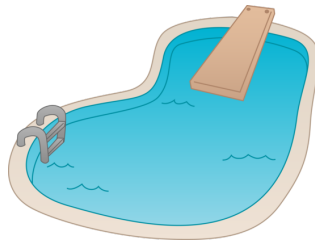


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2016

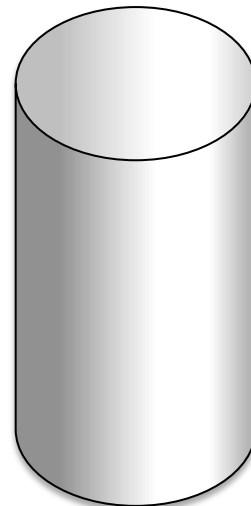
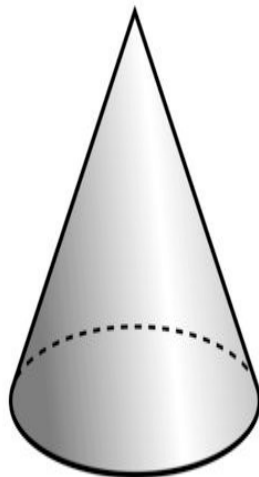
DEPARTMENT OF MATHEMATICS

PROBLEM SOLVING CHALLENGE

- Q1.** A pool has a volume of 2000 litres. Tommy starts filling the empty pool with water at a rate of 10 litres. The pool springs a leak after 10 minutes and water leaks out at 1 litre per minute from then on. Beginning from the time when Tommy starts filling the empty pool, how long does it take to completely fill the pool? *Cycle*



- Q2.** 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 *Senior Cycle*
- The ratio of the volumes of these lead shapes.
 - 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 29th of January

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

Good Luck.

Junior Cycle students answer question 1 only.

Senior Cycle students answer question 2 only