MAR/APR 2017

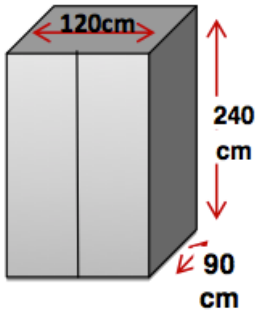
DEPARTMENT OF MATHEMATICS

PROBLEM SOLVING CHALLENGE

Q1. *Junior Cycle*

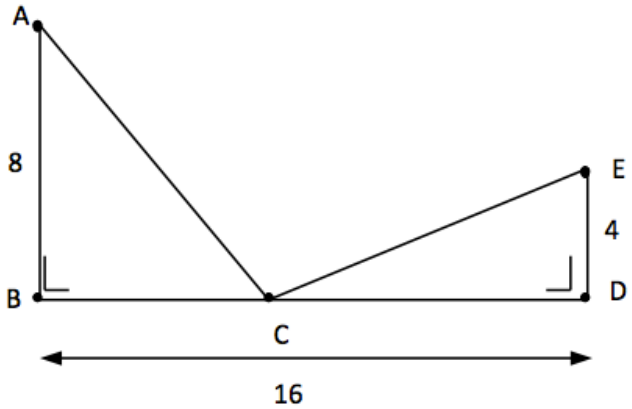
(a) Seamus is using all 120 inches of a piece of copper wire to build a rectangle that is five times as long as it is wide, and a square whose side length is the same as the width of the rectangle. What will be the exact area of the square?

(b) The following figure shows the dimensions of a lift. What is the longest possible length of a stick that can be put inside the lift? (Give your answer to the nearest cm). You must show or explain how you found your solution to the answer.



Q2. *Senior Cycle*

A person wishes to move from a point A to a point E via a point C on a line segment [BD]. The segments [AB] and [ED] are perpendicular to [BD]. If $|AB| = 8km$, $|BD| = 16km$ and $|ED| = 4km$, find $|BC|$ if the total distance travelled is to be a minimum.



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 28th April.

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

Good Luck.

Junior Cycle students answer question 1 only. *Senior Cycle students answer question 2 only*