## LCOL BASIC SKILLS - PACK 3

## Topics

Algebra - Can I solve simultaneous linear equations with 2 unknowns?
Last Needed - 2023
1-2012 LCOL Paper 1 - Question 2 (a)
Area, Perimeter and Volume - Can I find the volume of a cone?
Last Needed - 2021
2 - 2008 LCOL Paper 2 - Question 1 (c) (i)
Probability - Can I find the expected value of an event?
Last Needed - 2023
3 - 2018 LCHL Paper 2 - Question 1 (a)
Trigonometry - Can I find the area of a triangle given two sides and the angle between?
Last Needed - 2023
4 - 2010 LCOL Paper 2 - Question 5 (a)
Statistics - Can I construct a back-to-back stem and leaf plot?
Last Needed - 2022
5 - 2012 LCOL Sample Paper 2 - Question 6 (b) (i)
www.mathspoints.ie for worked solutions to these questions.
$\square$ LCOL Resources by Topic
$\square$ LCOL Revision - 50 Common Questions

1 - 2012 LCOL Paper 1 - Question 2 (a)
Solve for $x$ and $y$

$$
\begin{gathered}
x-y=4 \\
2 x+y=5
\end{gathered}
$$



## 2 - 2008 LCOL Paper 2 - Question 1 (c) (i)

A wax candle is in the shape of a right circular cone.
The height of the candle is 7 cm and the diameter of the base is 6 cm .

Find the volume of the wax candle, correct to the nearest $\mathrm{cm}^{3}$


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## 3 - 2018 LCHL Paper 2 - Question 1 (a)

In a competition Mary has a probability of $\frac{1}{20}$ of winning, a probability of $\frac{1}{10}$ of finishing in second place, and a probability of $\frac{1}{4}$ of finishing in third place. If she wins the competition she gets $€ 9000$. If she comes second she gets $€ 7000$ and if she comes third she gets $€ 3000$. In all other cases she gets nothing. Each participant in the competition must pay €2000 to enter.

Find the expected value of Mary's loss if she enters the competition.


## 4 - 2010 LCOL Paper 2 - Question 5 (a)

In the triangle $A B C,|A B|=6 \mathrm{~cm},|B C|=5 \mathrm{~cm}$ and $|\angle A B C|=135^{\circ}$.
Calculate the area of the triangle, correct to the nearest square centimetre.



## 5 - 2012 LCOL Sample Paper 2 - Question 6 (b) (i)

The students decide to look at the heights of the males and the females in the class separately. The heights are given below:

Construct a back-to-back stem and leaf plot of the above data.

| Males |  |  | Females |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 173 | 180 | 174 | 167 | 161 | 160 |
| 175 | 178 | 176 | 157 | 164 | 172 |
| 180 | 171 | 170 | 168 | 149 | 161 |
| 187 | 176 | 166 | 167 | 167 | 171 |


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|  |  |  |  |  |  |  |  | $\mid$ |  | $\square$ |  |  |  |  |  |  |  |  |
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