## Essential Skills 3

The skills in this series of worksheets appear frequently.
These are the GIFTS you must take to succeed
Altitude of a Triangle (Non Calculator)
Find the equation of the altitude from $A$ in each:

1. $A(2,1), B(4,7)$ and $C(10,1)$
2. $A(1,-5), B(-5,5)$ and $C(7,-7)$
3. $A(1,14), B(0,-3)$ and $C(9,0)$
4. $\quad A(-3,1), B(4,7)$ and $C(8,-1)$
5. $A(-4,4), B(-2,-6)$ and $C(6,2)$
6. $A(-1,4), B(1,-4)$ and $C(-7,0)$
7. $A(1,8), B(3,14)$ and $C(9,8)$
8. $A(3,9), B(-7,-1)$ and $C(9,-9)$
9. $A(3,-2), B(-1,-5)$ and $C(7,1)$
10. $A(4,8), B(-2,4)$ and $C(10,4)$

## APPLYING QUESTION

Triangle ABC has vertex A on the $y$-axis.

(a) The equation of $A B$ is $7 y-6 x-21=0$

State the coordinates of $A$.
(b) Find the equation of the altitude from A .
(c) Determine the co-ordinates of the point where the altitude from A meets the line BC.

