

## Y12 CO-ORDINATE GEOMETRY TASK.

Draw Triangle ABC where A is $(2,1) \mathrm{B}$ is $(14,7)$ and C is $(10,15)$

1. Find the gradients of AB and BC .
$\operatorname{Grad} \mathrm{AB}=1 / 2$
$\operatorname{Grad} B C=-2$

What does this tell us about AB and $\mathrm{BC} ? 1 / 2 \times-2=\mathbf{- 1}$ so perpendicular
2. Find the Mid Points of BC and AC and find the Equation of the line joining the mid points.
$\operatorname{Mid}$ Point $\mathrm{BC}=\quad(12,11) \quad \operatorname{Mid}$ point $\mathrm{AC}=(6,8)$
Grad $=1 / 2 \quad$ equ is $y=1 / 2 x+6$
3. Find the co-ordinates of a point D which would make ABCD into a rectangle.
$\mathrm{D}=(-2.9)$
4. Find the co-ordinates of a point E which would make AEBC into a parallelogram.
$\mathrm{E}=(6,-7)$
5. Find the area of triangle ABC . Explain your method.


Angle $\mathrm{ABC}=90^{0} \quad$ Area $=\frac{b h}{2}=\frac{\sqrt{ }(180 \times 80)}{2}=\frac{120}{2}=60$ units $^{2}$

