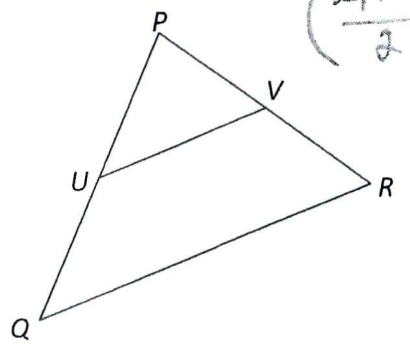
The points $P(7, 10)$, $Q(1, 2)$ and $R(11, 4)$ are the vertices of the triangle shown.
The point $U(4, 6)$ is the midpoint of $[PQ]$ and the point V is the midpoint of $[PR]$.

* $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$



DO

(a) Find the co-ordinates of V.

* V is the midpoint of P & R

DO

(b) Show, by using slopes, that UV is parallel to QR.

* Hint: Show that the slope of UV = slope of QR, Find both slopes $m = \frac{y_2-y_1}{x_2-x}$

TRY

(c) Find the area of the triangle PQR.

* Hint * Move one of the points to (0,0) then move the others the same distance

$\frac{1}{2}|x_1y_2 - x_2y_1|$

(x_1, y_1)

(x_2, y_2)