Question 6

Answer either 6A or 6B.

Question 6A

(a) Prove that, if two triangles $\triangle ABC$ and $\triangle A'B'C'$ are similar, then their sides are proportional, in order:

AB	BC	CA
A'B'	B'C'	$\overline{ C'A' }$.

Diagram:



(b) Given the line segment [BC], construct, without using a protractor or set square, a point A such that $| \angle ABC | = 60^{\circ}$. Show your construction lines.

B _____ *C*

OR

Question 6B

[AB] and [CD] are chords of a circle that intersect externally at E, as shown.



(a) Name two similar triangles in the diagram above and give reasons for your answer.



(b) Prove that | EA | . | EB | = | EC | . | ED |.



(c) Given that $|EB| = 6 \cdot 25$, $|ED| = 5 \cdot 94$ and |CB| = 10, find |AD|.



Project Maths, Phase 3 Paper 2 – Higher Level