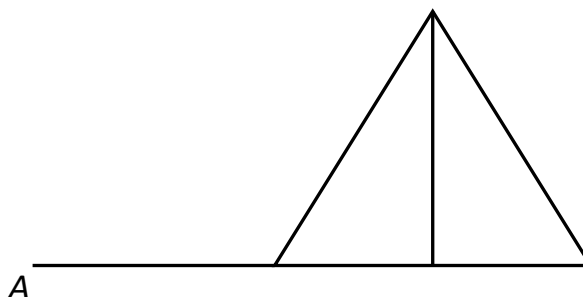
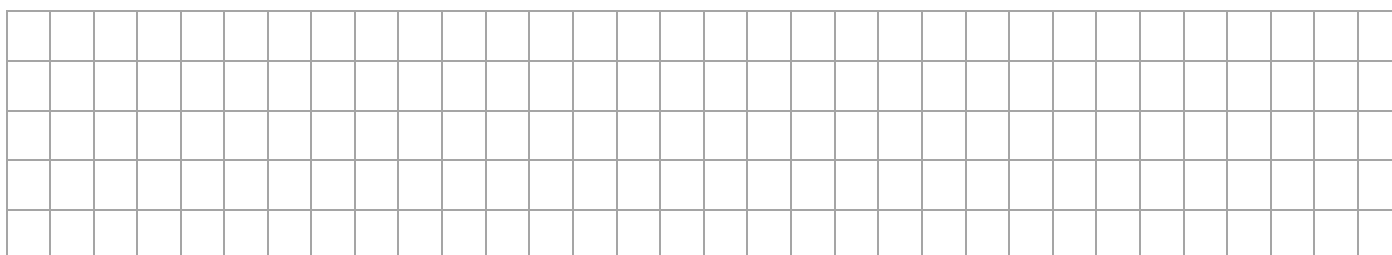


- (a) The pyramids of Giza in Egypt are over 4,500 years old. Fiona is lying down at a point A looking up at the top of the pyramid. She measures the angle of elevation to the top of the pyramid to be 15° . She then walks 100 metres closer to the pyramid in a straight line and measures the angle of elevation, while lying down, to be 20° .



- (i) On the sketch above, draw a diagram showing all of her measurements.
- (ii) Calculate the height of the pyramid, h , to the nearest metre.



- (b) Later on, Fiona draws a three dimensional sketch of the pyramid as shown. She recognises that it has a square base with four triangular faces. The top of the pyramid is directly above the centre of the base. She calculates the side of the base to be 230 metres. Find the distance along the ground, from the centre of the base to the vertices, writing your answer in surd form.

