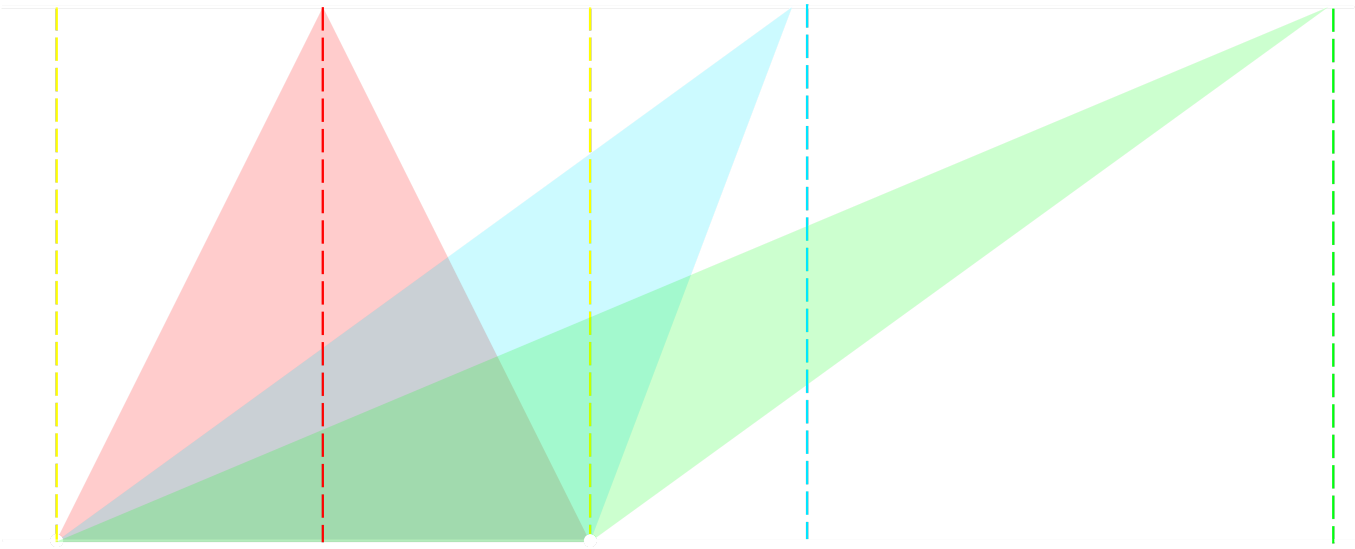
#L2MAEL

Perpendicular lines in Triangles:

Triangles with right angles means that one line is *perpendicular* to another line somewhere. The equation for the new perpendcular line can be formed using the formula, where m is pre-found using perpendicular gradient rule, and the point can be found from the question (normally).

Triangles with the same area on parallel lines:



Each color-coded dotted line, represents the corresponding color triangle's height.

Each triangle has the same base, and the same height as seen from the diagram, which means that all the triangles have the same area due to the are formula:

$$Area = \frac{1}{2}(b)(h)$$

Since $\frac{1}{2}$ is a constant the area of triangle would be the same whereever the triangle was put, as long as they had the same base (marked with a white dot), and the same height (touching the top white line).

If the question was asking for **right angled triangle + same area**, the vertex (excluding the base vertexes) has to be on the dotted yellow line, **while touching the top white line**, where there are only two possible coordinates for the final vertex.