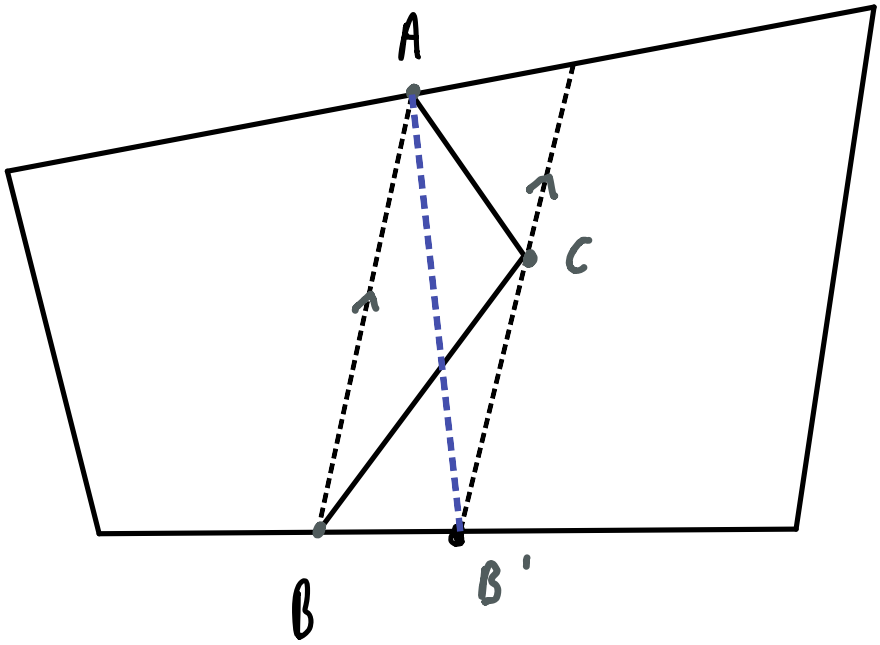

Construct the line parallel to AB through C. We claim that triangle ABB’ has the same area as triangle ABC. Clearly, they both share the same base AB. Furthermore, as AB is parallel to CB’ (by construction), the area of triangle ABB’ is the same as the area of triangle ABC. This is because a triangle’s area can be determined solely from (0.5 * base * perpendicular height), and the two perpendicular heights in this case are the perpendicular distances between two parallel lines (which are constant). So AB’ is the required straight line.