*Three challenging straight edge and compasses constructions! Best done on A3 paper – or maybe a dynamic geometry challenge.*

**Napoleon’s Theorem**

* Take any triangle and construct an equilateral triangle on each of its faces.
* Find the centres of each of the three equilateral triangles.
* Join these three points.

The result should be an equilateral triangle - check

**Van Aubel’s Theorem**

* Take any quadrilateral. Construct a square on each of its faces.
* Find the centres of the four squares.
* Join the centres of the opposite squares with line segments.

Check that these line segments are equal in length and perpendicular

**Thebault’s Theorem**

* Take any parallelogram. Construct a square on each of its faces.
* Find the centres of the four squares.
* Join the four centres of the squares.

The result should be a square – check

Click [here](http://www.kangaroomaths.com/kenny11.php#gsp) for Geometer’s Sketchpad files and screenshots in Word