Polygonal strings

Peter keeps a piece of string from a parcel that came for his birthday. It is 30 cm long. He plays with it and makes different shapes all with the same perimeter of 30 cm. Then he wonders about polygons.

Which has the **biggest area**: an equilateral triangle, a square or a regular hexagon?

His sister Kiri says that she thinks he can get more area inside a circle with that perimeter.

Which of these figures has the biggest area?