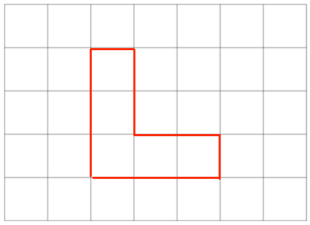
Angles: Tessellations

Video 36 on www.corbettmaths.com

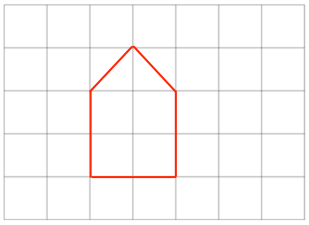
Workout

Question 1: Show how each of the following shapes tessellate.
For each you should draw at least 8 shapes.

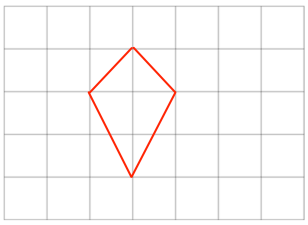
(a)



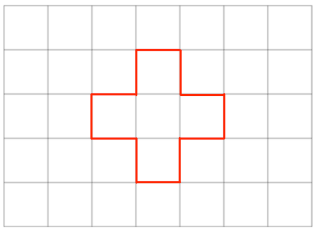
(b)



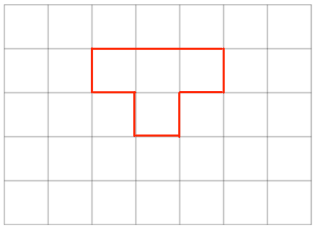
(c)



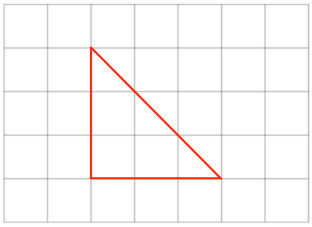
(d)



(e)



(f)

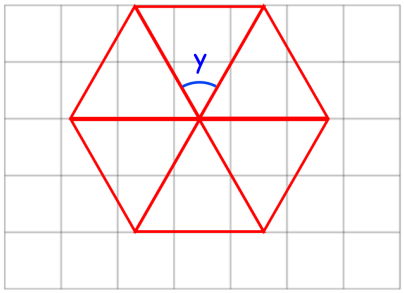


Apply

Question 2: The diagram shows how equilateral triangles tessellate.

(a) Find the size of the angle y.

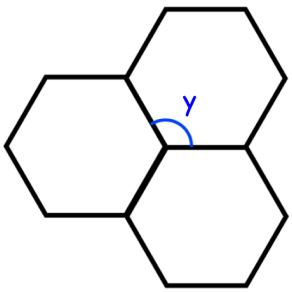
(b) Explain why equilateral triangles tessellate.



Question 3: The digram shows how regular hexagons tessellate.

(a) Find the size of the angle y.

(b) Explain why regular hexagons tessellate.



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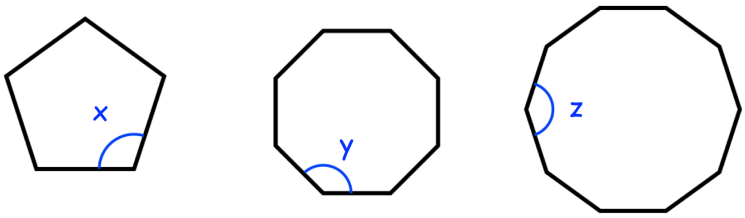
Question 4: Shown below is a regular pentagon, regular octagon and a regular decagon.



(a) Find x

(b) Find y

(c) Find z

(d) Explain why regular pentagons do not tessellate.

(e) Explain why regular octagons do not tessellate.

(f) Explain why regular decagons do not tessellate.

Question 5: There are three regular tessellations that are possible using only one type of regular polygon (equilateral triangles, squares and hexagons)

There are several more semi-regular tessellations which are made from two or more types of regular polygon.

The pattern below shows a semi-regular tessellation using squares and regular octagons.

What other semi-regular tessellations can you find?