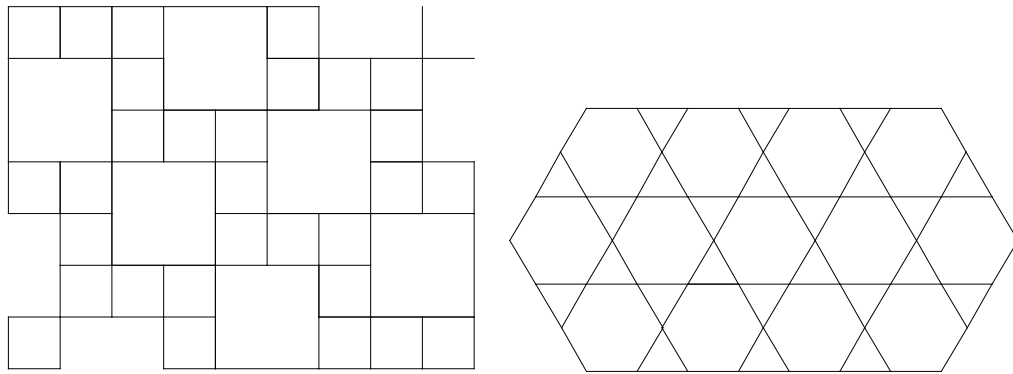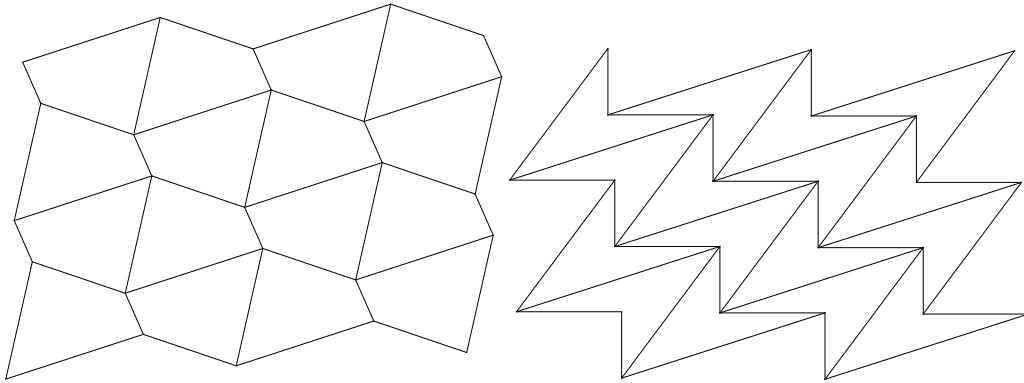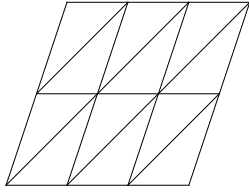# TESSELLATIONS

A tessellation is a tiling of shapes without any gaps or overlapping. The diagrams below show tessellations involving one and two shapes.

1.   Choose any one of Geo-Pro's triangles and use it to construct a triangular tessellation.

2.   Do all triangles tessellate (i.e. tile without gaps)?

3.   Choose a non-square, non-rectangular Geo-Pro quadrilateral (4 sided shape). Does it tessellate?
      If so, show in a sketch. Do you think all quadrilaterals tessellate?

4.   A regular polygon is a shape with equal angles and side lengths. Investigate which of the regular polygons (of side length 1 cm) on Geo-Pro tessellate.

5.   See if you can draw tessellations involving the following combinations of Geo-Pro shapes.
      (a)   2 cm square and 1 cm square (different to the tessellation shown above).
      (b)   The 2 cm equilateral triangle and the 1 cm equilateral triangle.
      (c)   The 1 cm regular hexagon and the 2 cm equilateral triangle.
      (d)   The 1 cm square and the 1 cm octagon.
      (e)   The 1 cm dodecagon (12 sides) and the 1 cm equilateral triangle.
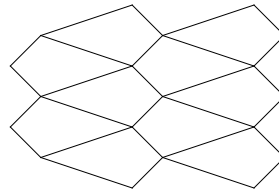   (f)   The 1 cm dodecagon, the regular 1 cm hexagon and the 1 cm square.

Answers
TESSELLATIONS

1. Answers may vary. Geo-Pro's obtuse scalene triangle tessellates as shown.
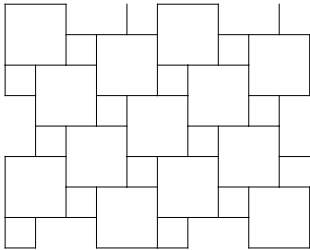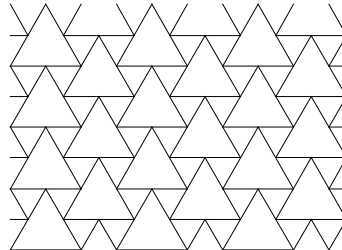
2. Yes, all triangles tessellate.

3. One possible answer:

All quadrilaterals tessellate.

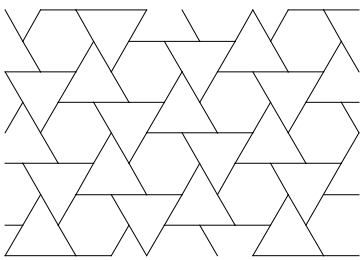4. Regular triangles, squares and hexagons will tessellate.
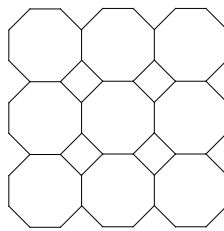
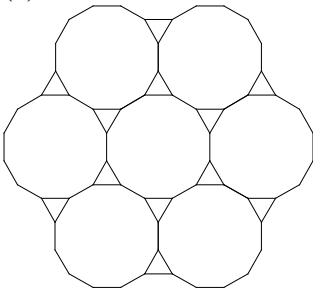5. (a) One possible answer:

   (b) One possible answer:

   (c)

   (d)

   (e)

   (f)