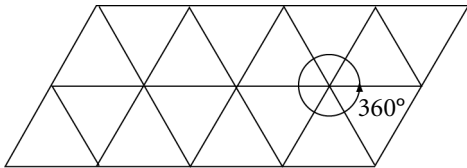




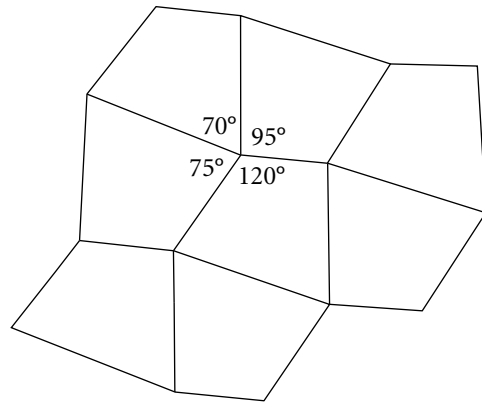
Quick Review

- ▶ When you can cover a page using congruent copies of a shape with no overlaps and gaps, the shape **tessellates**, creating a design called a **tessellation**.

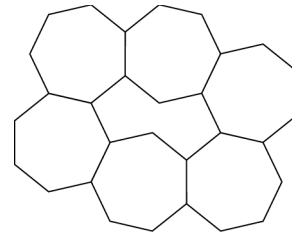
All triangles and all quadrilaterals tessellate.



At any point where the vertices meet, the angles add up to 360° .

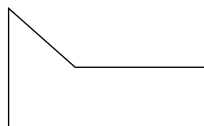


- ▶ There are some shapes that do not tessellate because they cover a page with overlap or gaps. For example, this heptagon does not tessellate.



- ▶ You can combine shapes to tessellate. These combined shapes are called **composite shapes**.

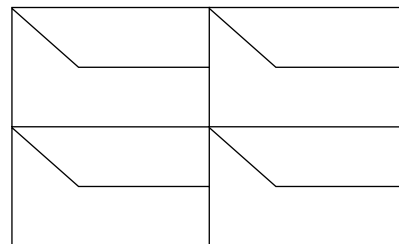
For example, Shape A combines with Shape B to form a quadrilateral that tessellates.



Shape A



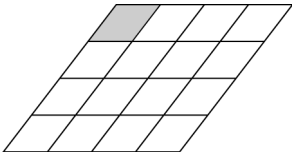
Shape B



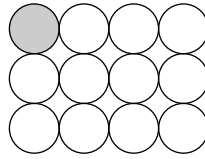
Practice

1. Which of these designs are tessellations? Justify your answer.

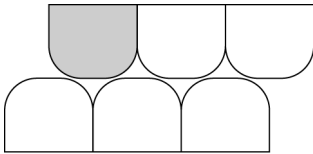
a)



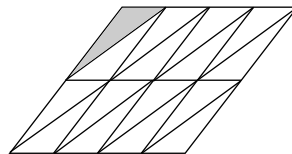
b)



c)



d)

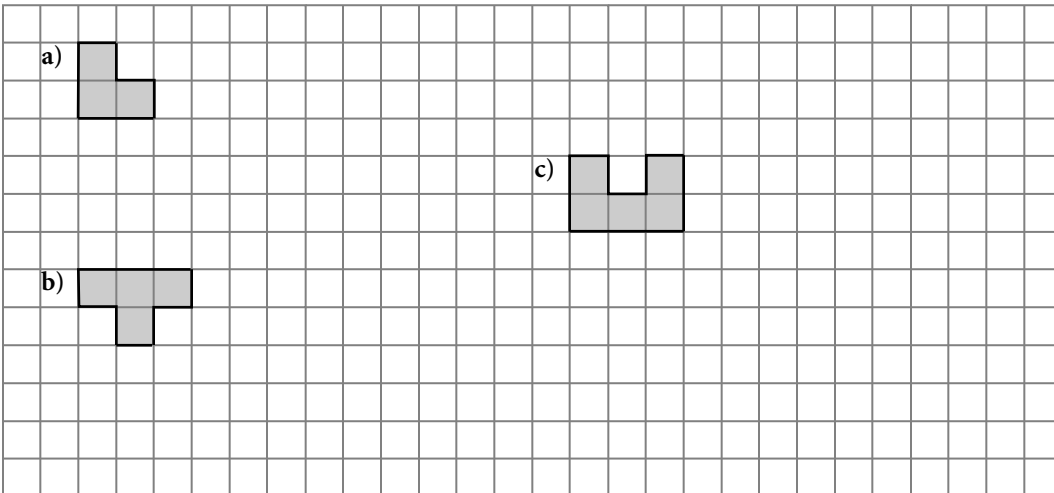


2. Which of these shapes tessellate? Use a drawing to justify your answer.

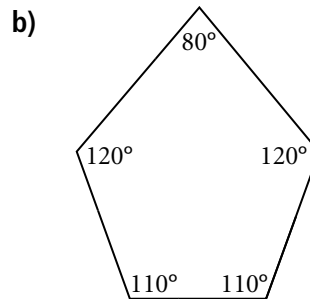
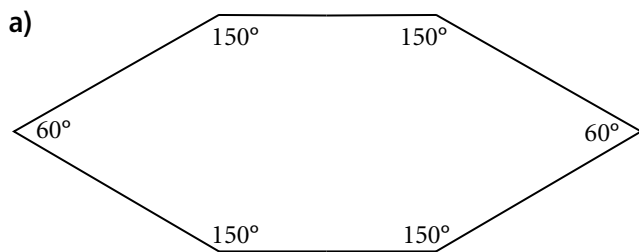
a) L-shape _____

b) T-shape _____

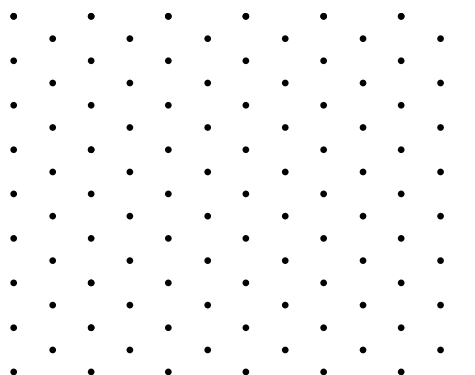
c) U-shape _____



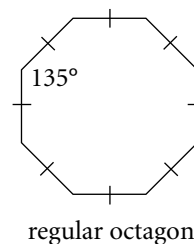
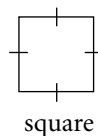
- 3.** Which of the polygons can be used to create a tessellation?
Justify your answer by checking if copies of the polygon can surround a point.



- 4.** Create a composite shape that tessellates using a regular hexagon and one or more equilateral triangles. Show your tessellation on the isometric dot paper.



- 5.** Arlene is planning to create a tessellating quilt pattern using one of these shapes.



- a) Which shape can Arlene use? Why?

- b) Can Arlene use a combination of these shapes to create a tessellating quilt pattern? Explain.
