



Problem 1 – Triangles

On page 1.4, there is a Control triangle and a Copy triangle. Drag the vertices of the Control to change the shape of the triangles. Measure the angles of the Control.

1. On the Copy triangle, construct the midpoints of the sides. Then use the **Symmetry** tool to create a tessellation.

Make a sketch of your triangle tessellation.

Sketch

2. Drag a vertex of the Control triangle. Does it matter what type of triangle (equilateral, isosceles, scalene) you use when creating a tessellation?
3. How many angles come together at one vertex of the tessellation?
4. List the measures of all the angles that come together at one vertex of the tessellation.
5. Find the sum of the angles at one vertex of the tessellation.

Problem 2 – Rectangles

In this problem, you will tessellate rectangles using different transformation tools.

6. On page 2.2, use the **Reflection** tool. Make a sketch of the tessellation.

Sketch

7. On page 2.4, use the **Translation** tool. Make a sketch of the tessellation.

Sketch



8. On page 2.6, different translation vectors are shown. Make a sketch of the tessellation. How does the pattern differ from the previous patterns?

Sketch

9. On page 2.8, use the **Rotation** tool. Make a sketch of the tessellation.

Sketch

10. How many angles come together at one vertex of the tessellation?

11. Find the sum of the angles at one vertex of the tessellation.

12. What other tools from the Transformation menu could be used instead of the **Symmetry** tool to create the same result?

Problem 3 – Quadrilaterals

On page 3.2, there is a Control quadrilateral and a Copy quadrilateral. Drag the vertices of the Control to change the shape of the quadrilaterals.

13. Create a tessellation using any of the tools from the Transformation menu. Make a sketch of the tessellation.

Sketch

14. What Transformation tool(s) did you use to create the tessellation?

15. How many angles come together at one vertex of the tessellation?

16. What are the measures of these angles? Find the sum of the measures.

17. Drag a vertex of the Control quadrilateral and observe the results. Complete:

The sum of the angles that come together at one vertex of a tessellation is _____.