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## Geometry <br> Unit 1 Line Master 3a <br> Why Do They Tessellate?

- What is the sum of the angles in a triangle?
- For each polygon shown, draw diagonals from one vertex to each of the other vertices.


## Square <br> 

Regular pentagon


Regular octagon


## Rectangle



Regular hexagon


Regular decagon

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Geometry
Unit 1 Line Master 3b

## Why Do They Tessellate? (cont'd)

- Complete the table.

| Polygon | Number <br> of <br> triangles | Sum of angle <br> measures | Measure of <br> each angle | $360^{\circ} \div$ angle <br> measure |
| :--- | :--- | :--- | :--- | :--- |
| rectangle |  |  |  |  |
| square |  |  |  |  |
| regular <br> pentagon |  |  |  |  |
| regular <br> hexagon |  |  |  |  |
| regular <br> octagon |  |  |  |  |
| regular <br> decagon |  |  |  |  |

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- Does a regular decagon tessellate? Justify your answer.
- Explain why some polygons tessellate and other polygons do not.

