

Turtlestitch Skills: Seeing Stars

Creating a star and other shapes

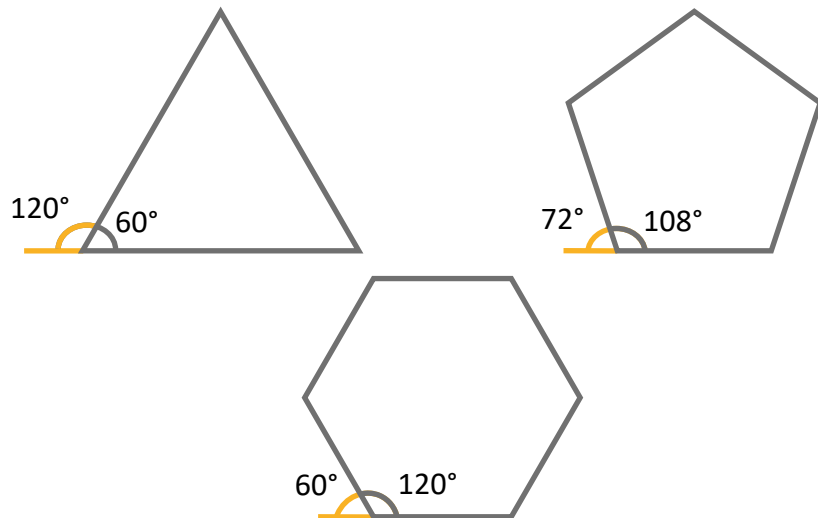
1. Use these blocks to stitch a star.

The code block contains the following instructions:

- running stitch by 10 steps
- repeat (loop)
- move 100 steps
- turn 144 degrees

The diagram shows a turtle starting at the left vertex of a five-pointed star, moving 100 steps to the right vertex, and then turning 144 degrees to the right to reach the top vertex. This process is repeated to complete the star.

2. Can you work out how to use these angles to stitch other shapes?



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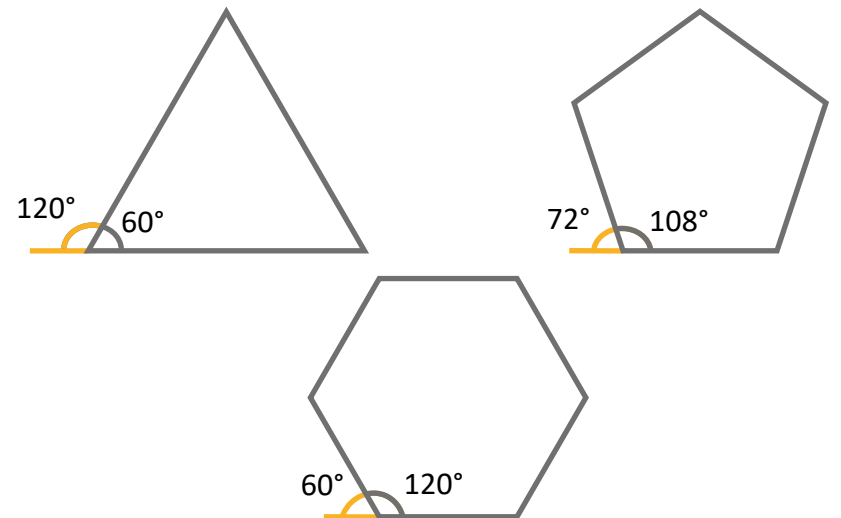
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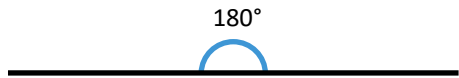
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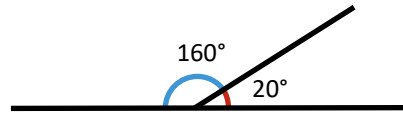
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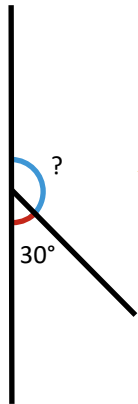
A key element of stitching shapes is working out how many degrees the turtle needs to turn. Here are some clues.



The angle on a straight line is 180°.



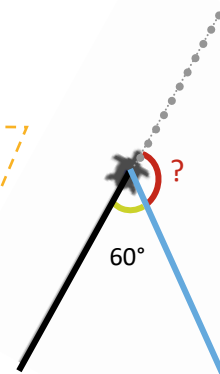
These angles add up to 180° because they join the straight line at the same point.



To work out the value of the red angle, we subtract 30 from 180. This tells us that missing angle is 150°.

The turtle has already walked along the black line. The grey line shows where the turtle will go if it doesn't turn.

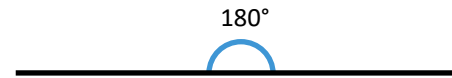
For the turtle to walk along the blue line, it needs to turn 120°, because $180 - 60 = 120$.



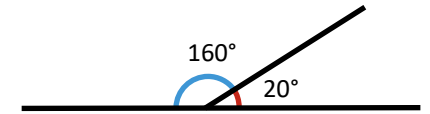
Taking it further...

Can you make stars with more points?

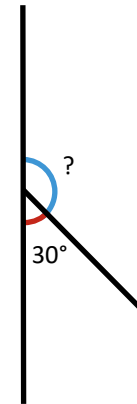
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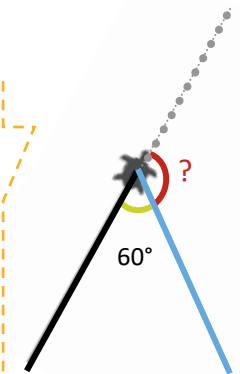
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