

■ my brilliant idea

Dead good

Maths

Ages 13-14

You want to introduce exterior angles to your Year 8 or 9 class but don't know how to do it? Before pupils arrive, mark out a large convex polygon, such as an irregular pentagon, on the floor using masking tape. As pupils enter the room, they may think it looks like a crime scene with the "murdered" polygon as the body. Urge them to walk beside the polygon and not step on it.

Make an approximate copy of the polygon on the board, the same way round as it looks to the class. Ask a volunteer to walk slowly along the perimeter of the polygon, beginning in the middle of one of the sides.

Do it again with another pupil tracing along the outline on the board, keeping in step all the way. Then ask another pupil to come to the board and mark the angles at each vertex that the walker is turning through.

Several tries may be necessary before the correct angles are identified, perhaps with the walker repeating the movement at the corners.

The angles found are the exterior angles of the polygon, and their sum must be 360 degrees, since the walker ends up back where they started after one circuit, and facing in the same direction.

You could follow up this work with a lesson in the computer room using the Logo programming language. Asking pupils to draw an equilateral triangle often leads to half a regular hexagon because they use 60 degrees rather than 120 degrees. Tying this in to the murdered polygon experience can be helpful ■

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