WHAT'S YOUR ANGLE?
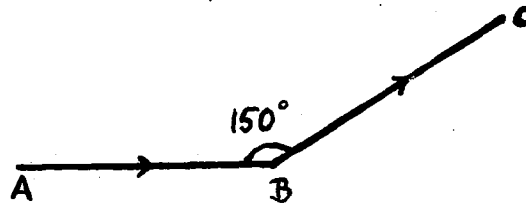
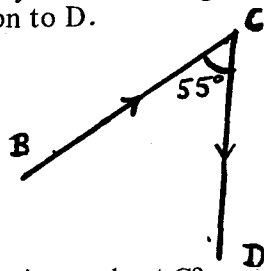## TURNING POINTS

You are on your way from A to C.

What angle do you turn through at B, 150° or 30° ?
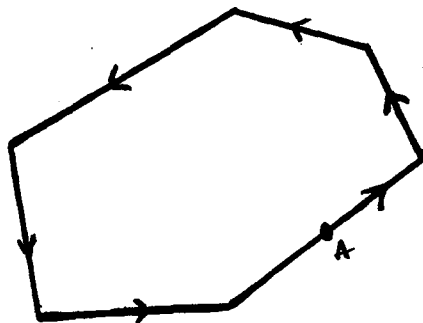You now go on to D.

What's your turning angle at C?

What is the **total** angle turned
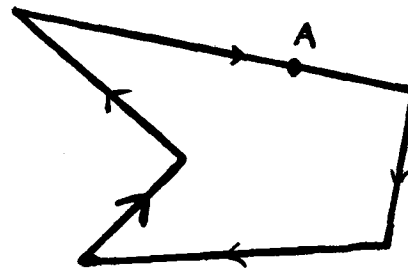through in going from A to D,
155°, 95°, -95° or 205° ?

ROUND TRIPS

Suppose now that you run all the way round a polygonal cross-country course,

maybe   or   ,

starting and finishing at a point A on one of the sides.
What is the total angle turned through?
What does the answer depend on -
   the number of sides travelled?
   the lengths of the sides?
   the sizes of the angles turned through?
Is the answer different if you run the other way round the course?
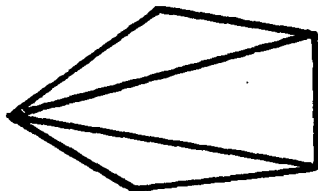
YOUR WAY?

It is a short step from all this to proving the familiar formula for the sum of the (interior)
angles of a polygon. But is it your way?

POINTS OF VIEW

We all have our individual preferences.
The traditional proofs make use of the fact that the sum of the angles of a triangle is 180°
(or two right angles).
One depends on the construction

which makes the polygonal famework rigid and reduces the problem directly to triangles
and the formula 2(n - 2) right angles. The angles in this proof are static things.
An alternative is to select a point of vantage inside the polygon giving (2n - 4) right angles as the answer.
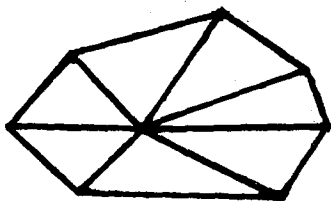
(Some people are worried at
the arbitrary choice of vantage
point that has to be made in
this proof.
Does this worry you?)

However it follows from the ideas developed overleaf that the sum of the exterior angles of
the polygon is four right angles and the result for the interior angles is an easy corollary. Here
the angles are thought of not as static things but as things to be turned through.

DOES IT MATTER?

In the end of the day, which definition of angle is the more important?
Have you discussed this with colleagues in your own and in other departments?