Precision Flying
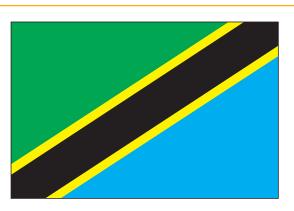
You need: a compass, a protractor, a ruler, a sharp pencil, coloured pencils or felt-tip pens

1. **a.** Follow these instructions:

> - Draw a baseline and mark off a segment 16 centimetres long. Label it DC.
> - Using your protractor, draw a line at right angles through D.
> - Extend this line upwards to A so that DA is 10.8 centimetres.
> - From A, with your compass set to 16 centimetres, draw an arc above C.
> - From C, with your compass set to 10.8 centimetres, draw an arc above C.
> - Call the point where the two arcs meet B. Join C to B and A to B.

   b. What shape is ABCD?

   c. What size is angle ABC? Measure it with your protractor.

2. **a.** Follow these instructions:

> - From A, and inside the rectangle, draw a short arc with a radius of 9.6 centimetres.
> - From D, using the same radius, draw an arc that cuts the previous arc and call this point E.
> - Join AE and DE.
> - Bisect the line BC, using a compass and ruler. Call the midpoint F.
> - Join EF.

   b. What kind of triangle is AED?

   c. Colour the triangle dark blue, the top trapezium white, and the lower trapezium red.

   d. Do some research to find out which flag you have drawn.

This flag is the national flag of Tanzania, drawn to scale.

a. Construct a rectangle that is 16 cm by 10.8 cm.
Make an accurate drawing of the flag within this rectangle.

b. Describe precisely what you did.