

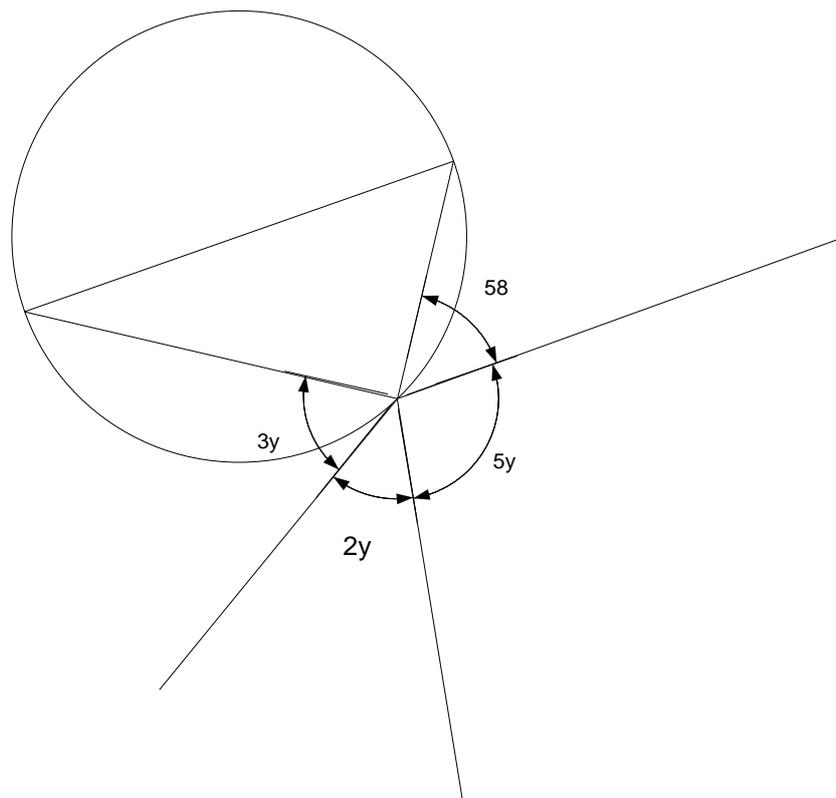
## Angle Problems

Things to remember:

- a There are  $360^\circ$  in a circle.
- b The sum of angles that meet at a point is  $360^\circ$ .
- c Angles that form a straight line total  $180^\circ$ .
- d The sum of angles in a triangle is  $180^\circ$ .
- e An angle subtended by a diameter is  $90^\circ$ .
- f Opposite angles subtended by a chord add up to  $180^\circ$ .
- g All angles subtended by the same chord on the same side of the chord are the same size.

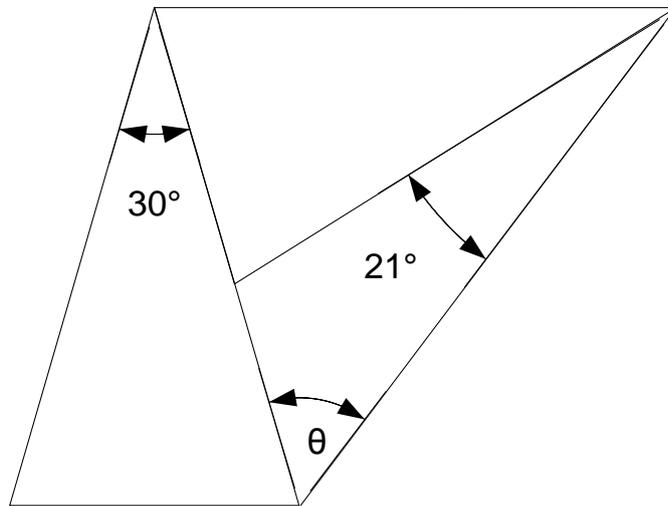
**DO NOT SCALE ANY OF THESE DIAGRAMS.**

1



Find the value of  $y$ .

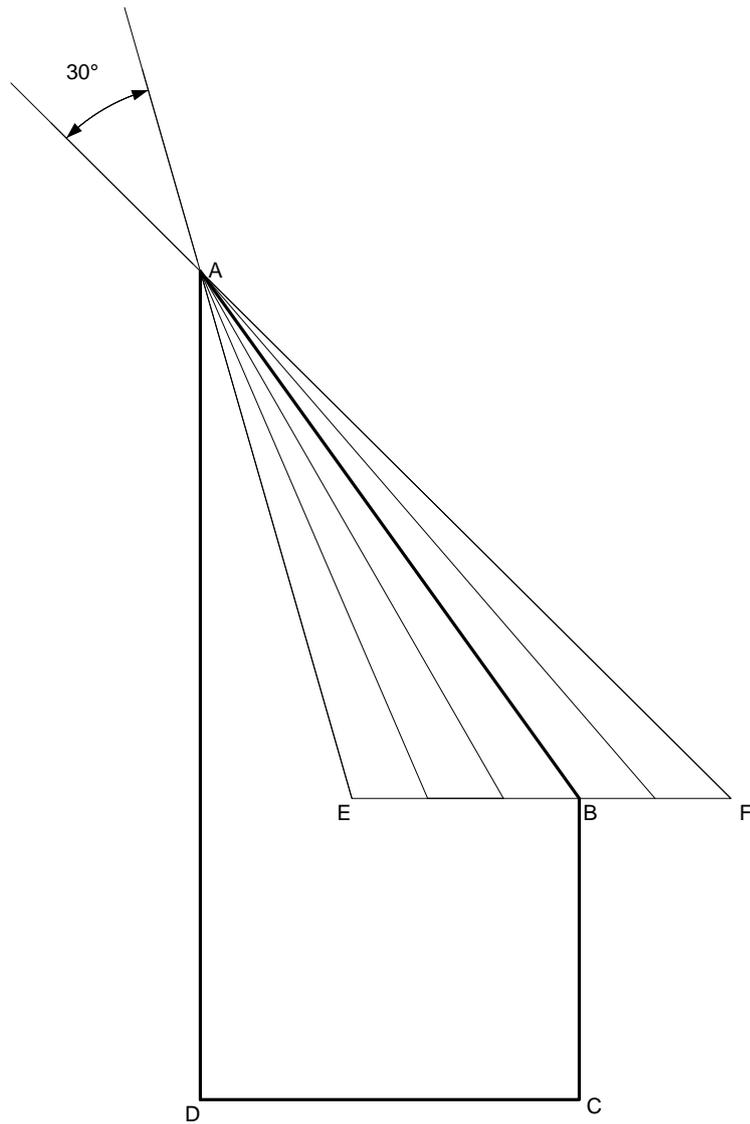
2.



The quadrilateral above is composed of two identical isosceles triangles and a scalene triangle. You are shown an angle of  $30^\circ$  and an angle of  $21^\circ$ . Calculate the size of angle  $\theta$ .

Explain the calculations that you do.

3.



ABCD is a quadrilateral. The line EF is divided equally. The angle shown is an extension of the lines AF and AE. Angles BCD and CDA are right angles. Calculate the angles DAB and ABC.