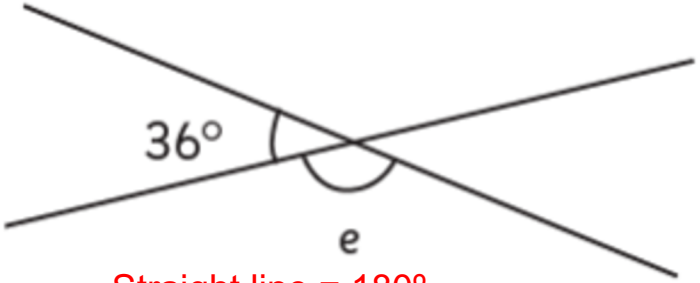
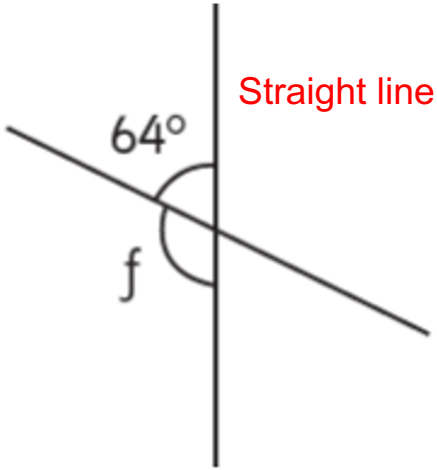


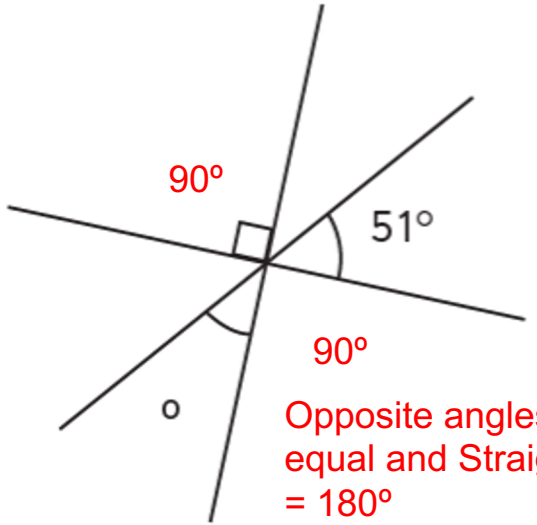
Straight line = 180º

e = 180- 36= 144º



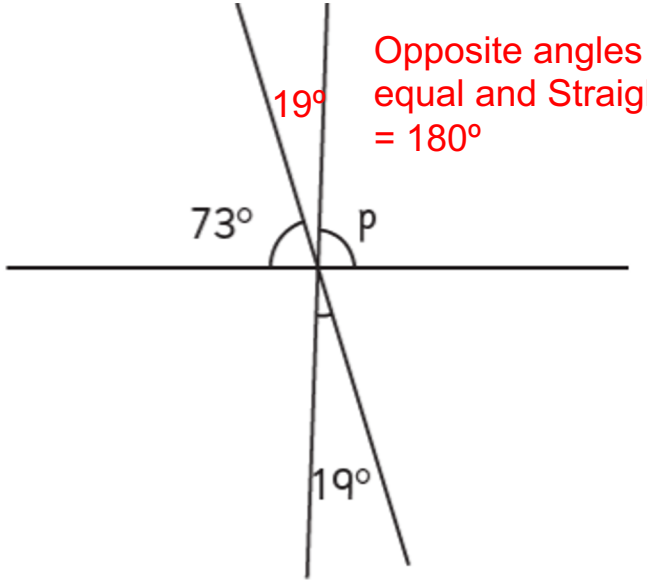
Straight line = 180º

f = 180-64= 116º



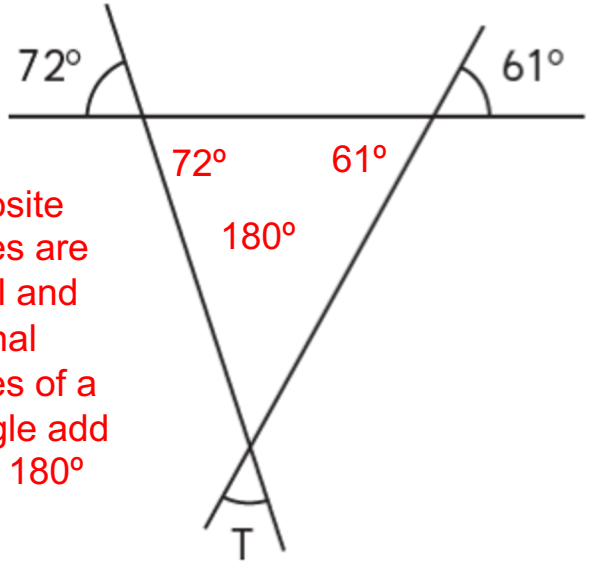
Opposite angles are equal and Straight line = 180°

o = 90+51= 141
180-141= 39°



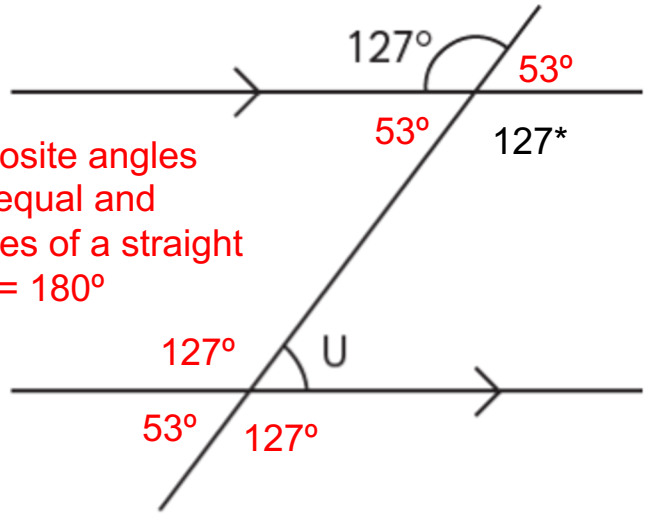
Opposite angles are equal and Straight line = 180°

p = 73 +19= 92
180-92= 88°



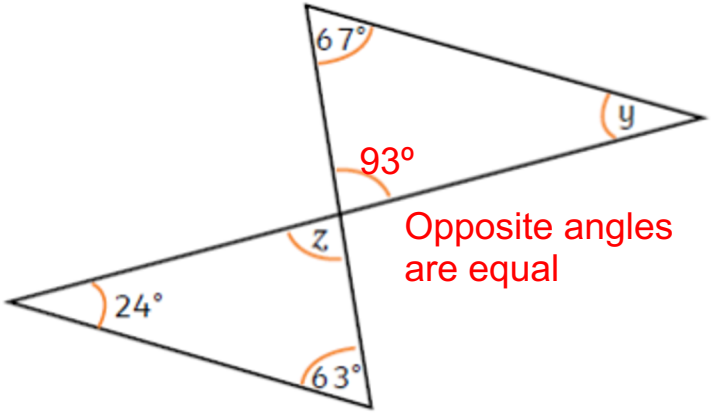
Opposite angles are equal and internal angles of a triangle add up to 180°

T = 72 +61= 133
180-133= 47°



Opposite angles are equal and angles of a straight line = 180°

U = 180-127 = 53°

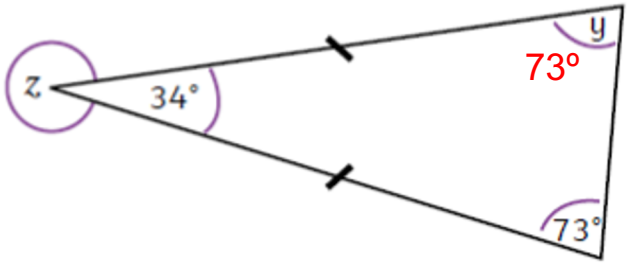


Opposite angles are equal

y = 93 +67= 160
180-160 = 20º
z = 63 +24= 87
180-87= 93º

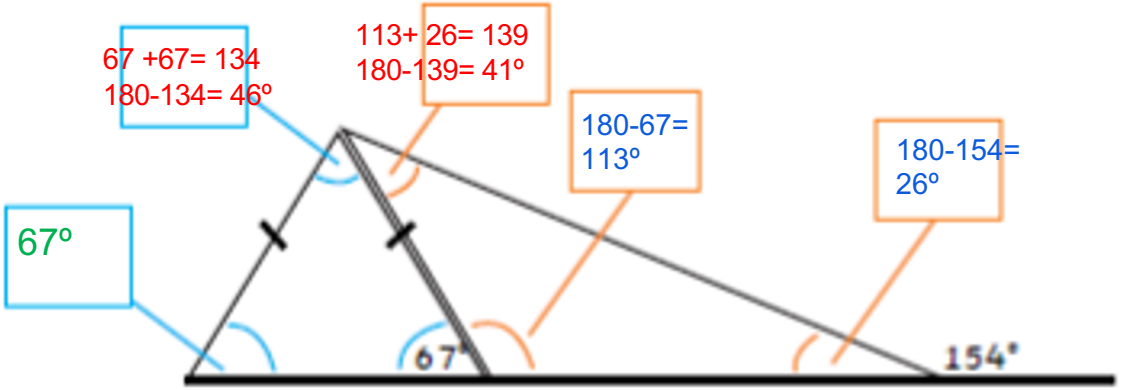
d)

An isosceles triangle has two equal angles



y = 73º
z = 360- 34 = 326º

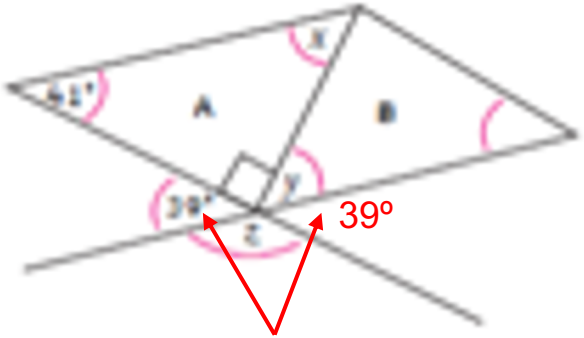
a) Circle the angle statements that you can use to help you calculate the missing angles in this shape.



The calculations are colour coded to match with the method I used to solve the missing angles.

Angles around a point = 360°.	Vertically opposite angles are equal.	Angles on a straight line = 180°.
Angles in a triangle = 180°.	A right angle = 90°.	Isosceles triangles have 2 equal angles.

b) Label the shape above with all of the missing angles.



Opposite angles are equal.

Important note: triangles are not drawn to scale, do not use a protractor.

x = 49º
y = 51º
z = 141º

Angle y will measure 39° as it is vertically opposite the angle measuring 39°.
Answer: False. Angle Y is not vertically opposite or indeed opposite at all. To work out Y, we need to use the fact that a straight line = 180
90 +39 = 129
180-129= 51º

To find angle x, subtract 41° and the value of the right angle from 180° .
Answer: True. Angle x can be calculated this way.
180- 90 = 90 -41= 49º

As angle z is one of 5 angles around a point, you can calculate angle z by dividing 360° by 5.
Answer: False. All the angles around that point would have to be the same size (congruent) to use this method of dividing by 5. Instead, we need to use the information that angles about a point = 360º
39 x 2 = 78, 78 +51= 129+ 90 = 219 and so, 360- 219= 141º