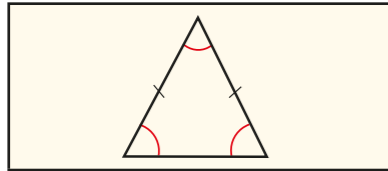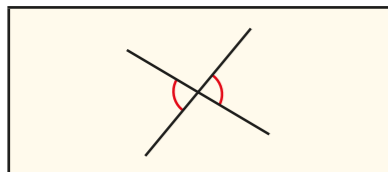# Angles in a triangle – missing angles
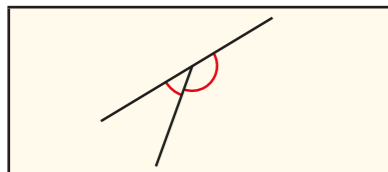
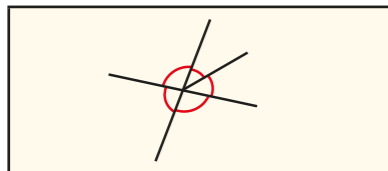**1** Match each diagram to the correct rule.

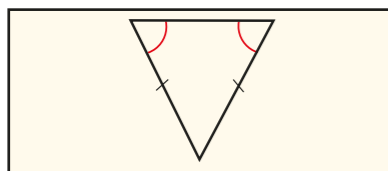Angles on a straight line sum to 180°

Angles around a point sum to 360°
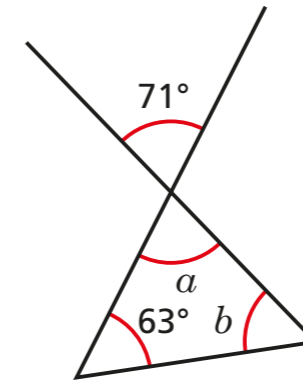
Angles in a triangle sum to 180°

In an isosceles triangle, two angles are equal

Vertically opposite angles are equal

2 Work out the sizes of the unknown angles.
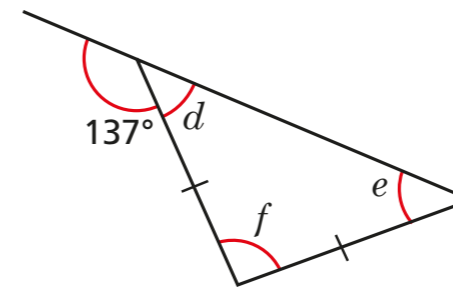
Give reasons for each stage of your working.

a)

$a =$ _____ because _____

_____
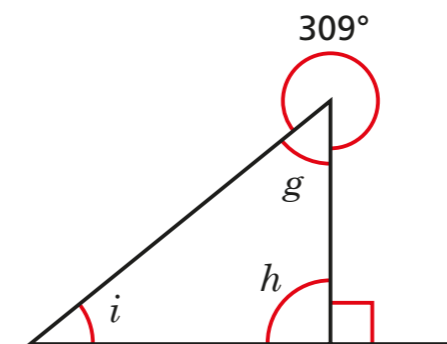
$b =$ _____ because _____

_____

b)

$d =$ _____ because _____

_____

$e =$ _____ because _____

_____

$f =$ _____ because _____

_____

c)

$g =$ _____ because _____

_____

$h =$ _____ because _____

_____

$i =$ _____ because _____

_____

3 Work out the sizes of the angles marked with letters.

a)

84°   131°

p

$$p = \boxed{}$$

b)

34°

q

$$q = \boxed{}$$

c)

r

$$r = \boxed{}$$

d)

122° s 41°

$$s = \boxed{}$$

e)

71°

128° t

$$t = \boxed{}$$

f)

u

52°

$$u = \boxed{}$$

g)

72°

49° v

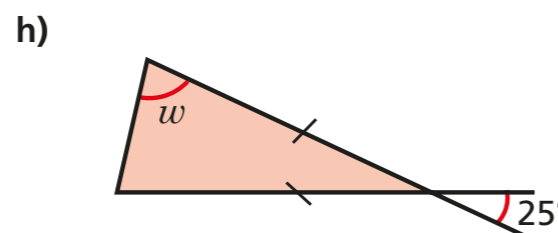$$v = \boxed{}$$

h)

w

25°
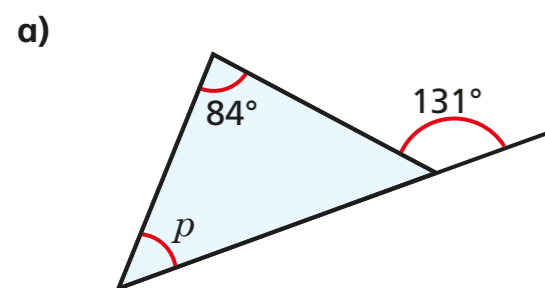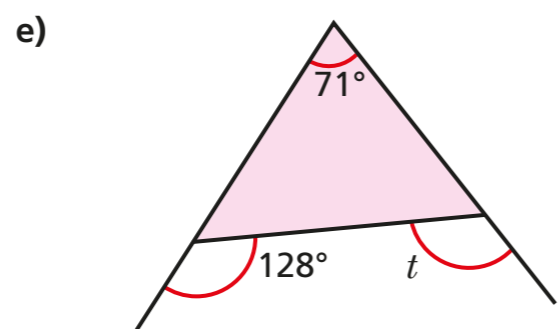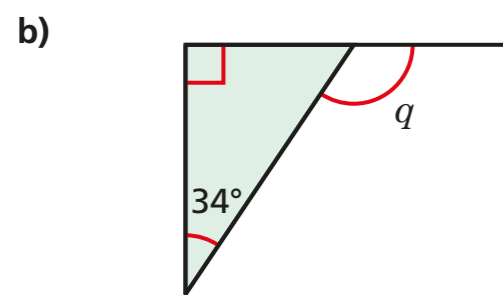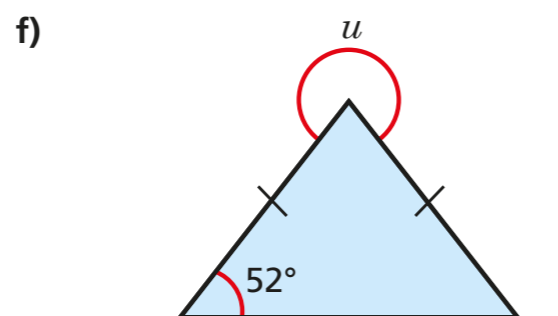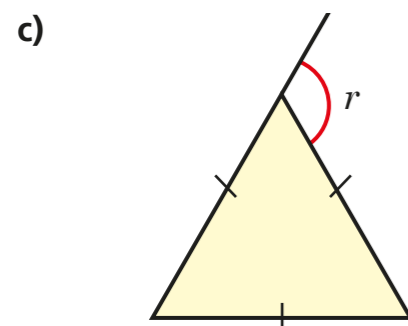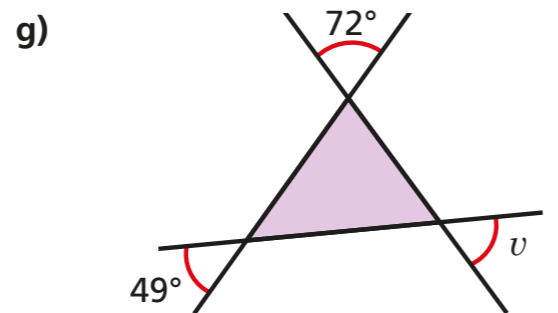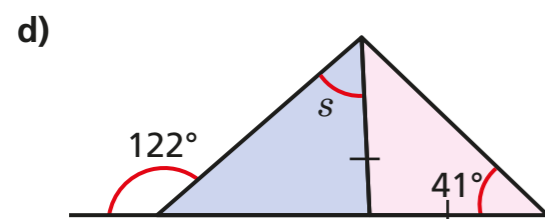
$$w = \boxed{}$$

Talk about your reasons with a partner.

4 Work out the sizes of the unknown angles.

a)

c

87.2°

70.5°

$$c = \boxed{}$$

b)

115.6°

d 99.9°
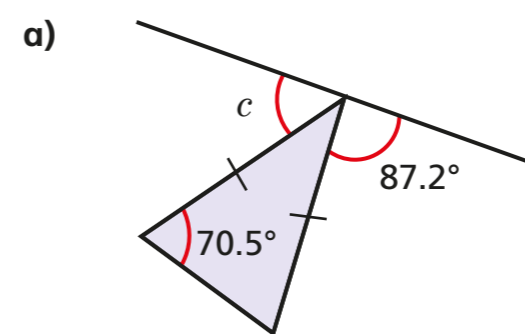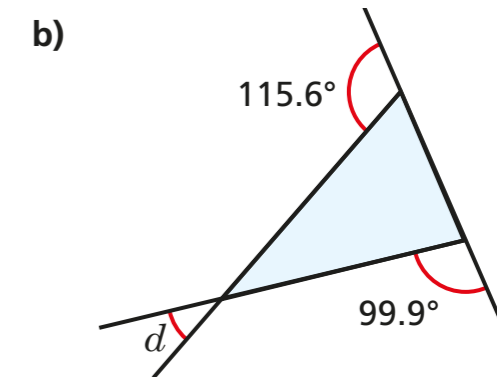
$$d = \boxed{}$$

5 Work out the size of angle x.

x 48°

37°

$$x = \boxed{}$$
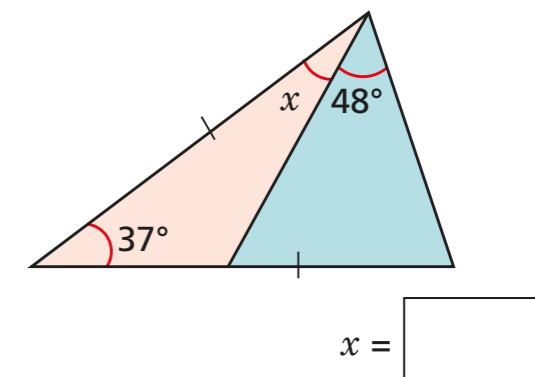
6 Here is an isosceles triangle.

Find two possible sizes of angle y.

y

61°

$$y = \boxed{} \text{ or } \boxed{}$$