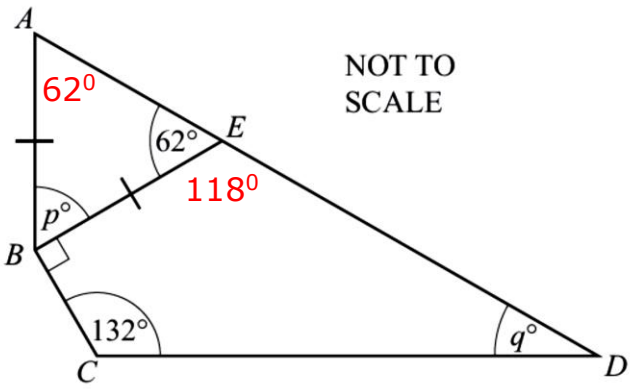
British Maths

1. **[April 2019 qp1 #28]**

The diagram shows an isosceles triangle *ABE* and a quadrilateral *BCDE*.

AD is a straight line.



(a) Calculate the value of *p* and the value of *q*.

In triangle ABE BA = BE

∠ p = 180 – (62 + 62) = 56 °

∠ BEP = 180 -62 = 118°

∠ q = 360 – (118 + 90 + 132)

= 20 °

p = 56°

q = 20°

(b) Hassan says that the quadrilateral BCDE is a kite.

Tick (✓) to show if Hassan is correct or not correct.

Correct	
Not correct	✓

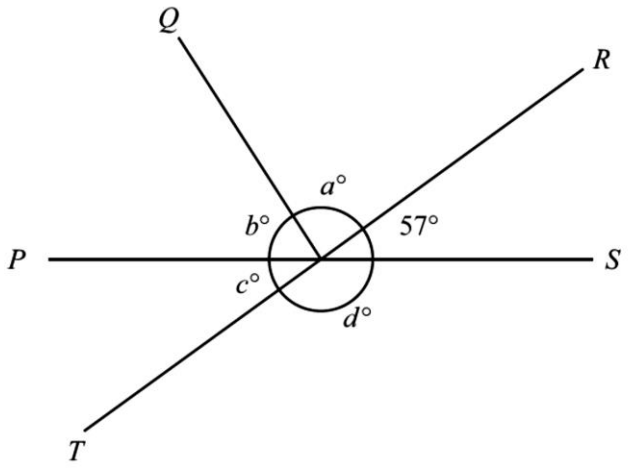
Give a reason for your answer.

Adjacent sides BC and BE are not equal

Another reason can be ∠ C and ∠ BED are not equal

2. **[October 2018 qp1 #5]**

The diagram shows 5 angles.



PS and RT are straight lines.

3. Draw a ring around an angle that must be equal to 123°.

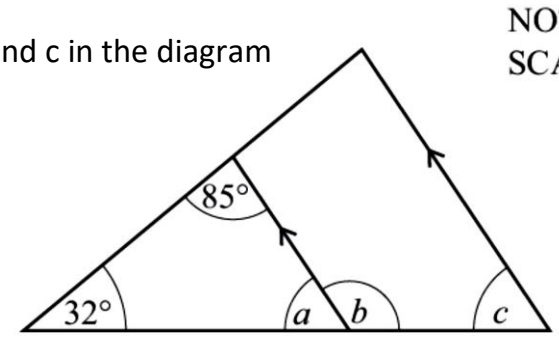
a b c d

Tick (✓) the reason that best explains your answer.

Vertically opposite angles are equal	☐
Angles on a straight line add up to 180°	✓
Angles around a point add up to 360°	☐

4. **[April 2017 qp1 #1]**

Work out angles a, b and c in the diagram



$a = 180 - (85 + 32) = 63$

$b = 180 - 63 = 117$

$c = a = 63$ $(corresponding)$

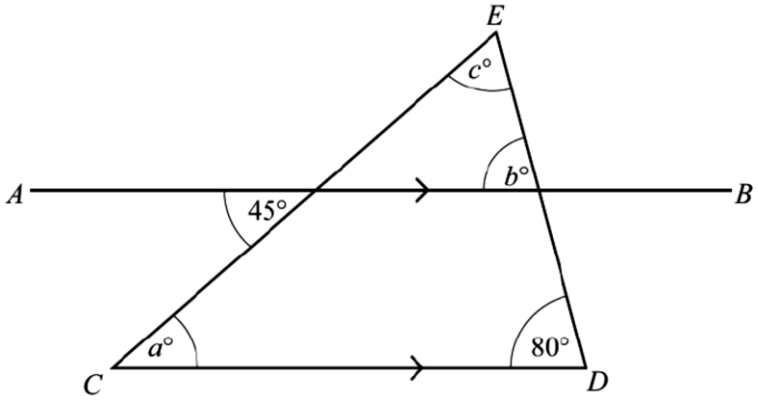
a = 63

b = 117

c = 63

5. **[October 2017 qp2 #4]**

In this diagram *AB* is parallel to *CD* and *ECD* is a triangle.



NOT TO SCALE

Work out the values of a, b and c

a = 45^0 (alternating)

b = 80^0 (corresponding)

c = $180^0 - (80 + 45) = 55^0$

a = ...45⁰.....

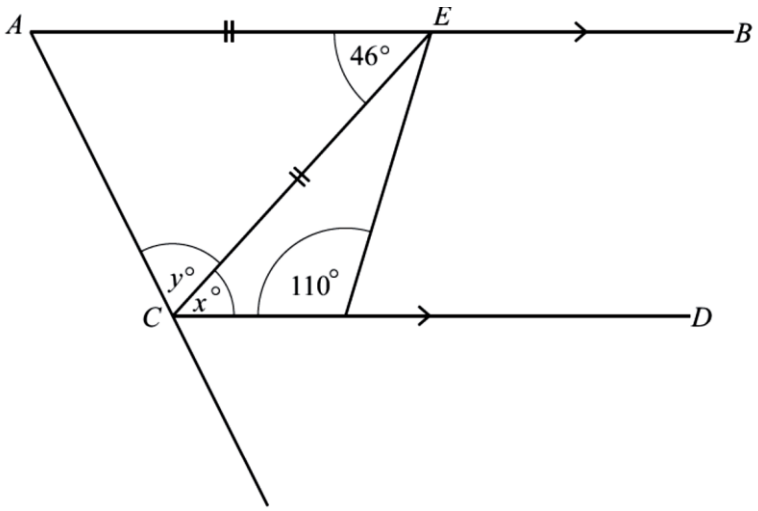
b = ...80⁰.....

c = ...55⁰.....

6. **[April 2016 qp1 #26]**

In the diagram *AB* is parallel to *CD*.

Triangle ACE is an isosceles triangle.



NOT TO SCALE

Work out the values of x and y.

$x = 46^0$ $(alternating)$

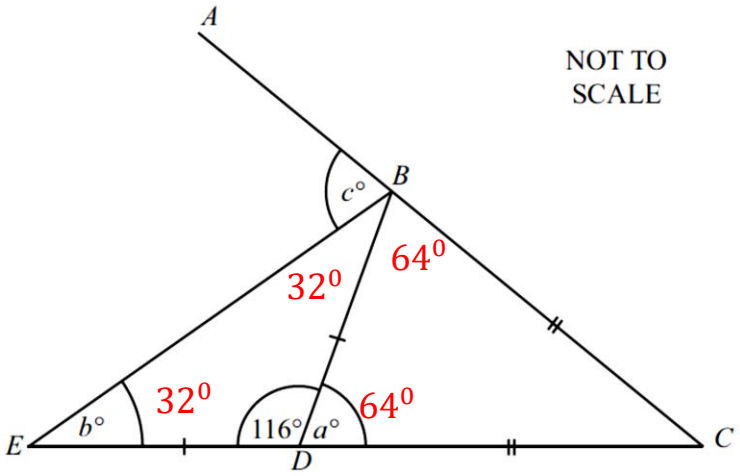
$y = \frac{180 - 46}{2} = 67^0$

x = ...46^0.....

y = ...67^0.....

7. **[October 2015 qp1 #21]**

The diagram shows two straight lines, *ABC* and *EDC*



NOT TO SCALE

BC = *DC*

DB = *DE*

Angle *EDB* = 116°

Work out the values of *a*, *b* and *c*.

$a = 180 - 116 = 64^0$

$b = \frac{180 - 116}{2} = 32^0$

$c = 180 - (64 + 32) = 84^0$

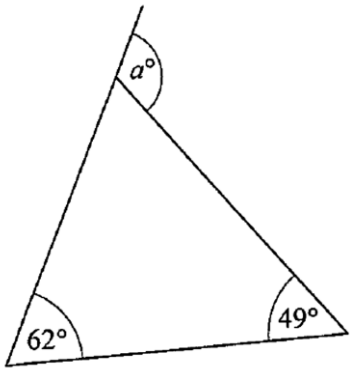
a = 64^0

b = 32^0

c = 84^0

8. **[April 2013 qp1 #6]**

(a) Work out the value of



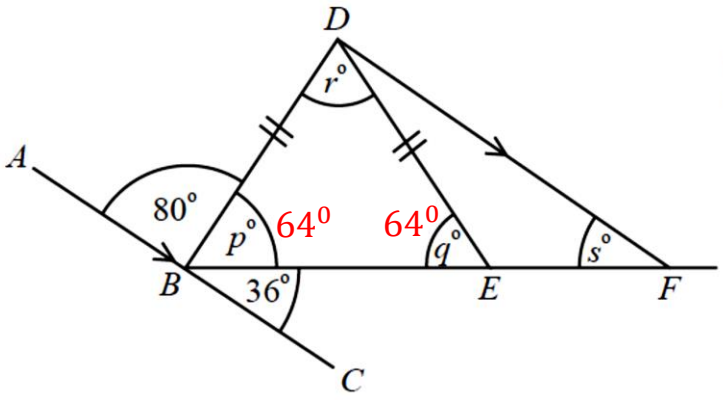
NOT TO SCALE

a = 111^0

(b) Give a geometric reason for your answer

$Exterior\ angle = 62 + 49$

9. **[October 2005 qp2 #6]**



not to scale

In the diagram, which is not drawn accurately, *ABC* is a straight line parallel to *DF*.

BD = *DE*.

Work out the size of the angles marked *p*, *q*, *r*, and *s*.

$p = 180 - (80 + 36) = 64^0$

$q = 64^0$ (Isosceles triangle)

$r = 180 - (64 + 64) = 52^0$

$s = 36^0$ (alternating)

p = ... 64^0 .....

q = ... 64^0 .....

r = ... 52^0 .....

s = ... 36^0 .....