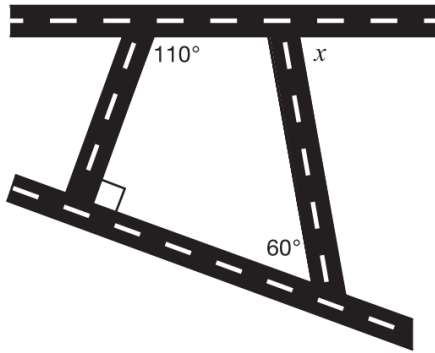


Review and EQAO Practice for Chapter 7 – Angles

2017

22 Four streets are pictured.

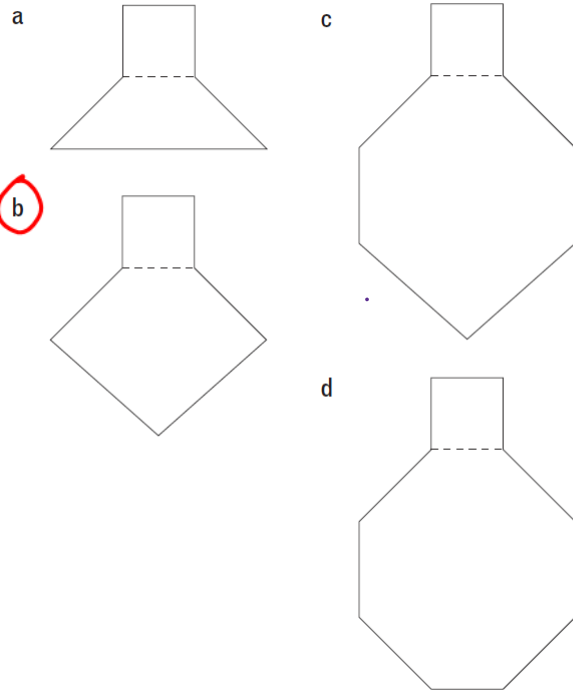


What is the value of x ?

- a 60°
- b 80°**
- c 100°
- d 110°

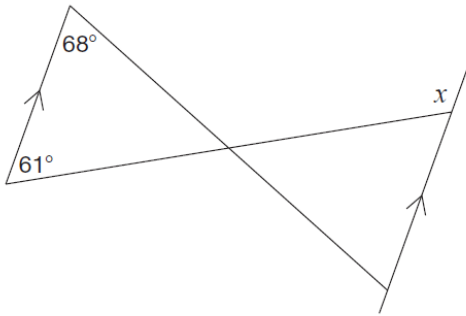
2016

22 Which of the following composite shapes has 900° as the sum of its interior angles?



2015

30 Consider the diagram below.

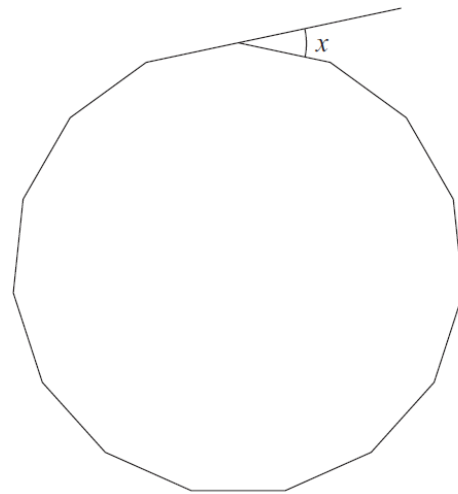


What is the value of x ?

- a 61°
- b 68°
- c 112°
- d 119°**

2015

31 The following figure is a 15-sided regular polygon.

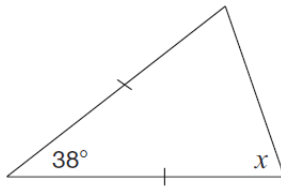


What is the value of x shown in the diagram?

- a 24°**
- b 34°
- c 46°
- d 48°

2014

28 What is the value of x in the diagram below?



- a 38°
- b 71°**
- c 104°
- d 161°

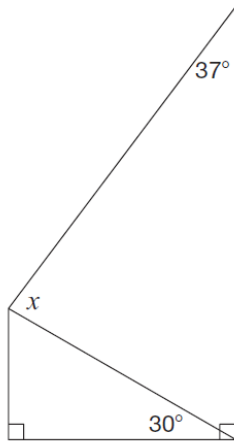
29 The sum of the interior angles of a polygon is 2700° .

How many sides does the polygon have?

- a 19
- b 17**
- c 15
- d 13

2013

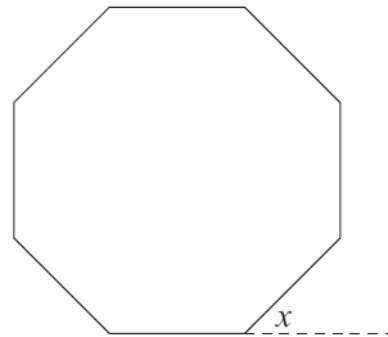
28 Consider the diagram below.



What is the value of x in the diagram?

- a 30°
- b 53°
- c 60°
- d 83°**

29 Consider the regular octagon below.



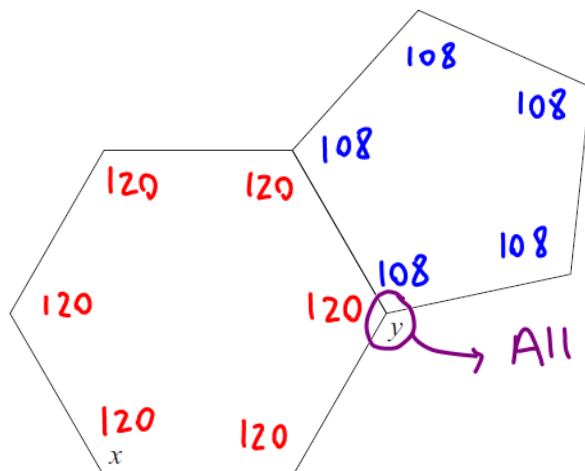
What is the value of x ?

- a 15°
- b 30°
- c 45°**
- d 60°

2016

14 Six and Five Sides

A regular hexagon and a regular pentagon are joined as shown below.

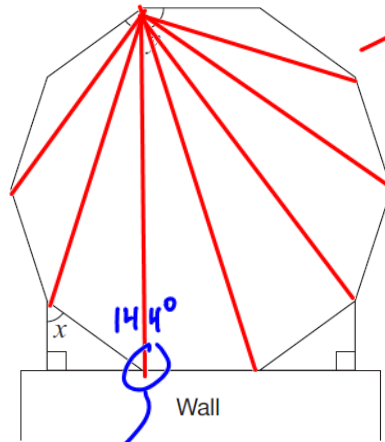


All 3 add up to 360° (circle)

Complete the table below with the values of x and y . Justify your answer using geometric properties.

Value	Justification using geometric properties
$x = 120^\circ$	$= (n-2) \times 180^\circ$ $= (6-2) \times 180$ $= 4 \times 180$ $= 720^\circ$ $\frac{720}{6 \text{ angles}} = 120^\circ$
$y = 132^\circ$	$= (n-2) \times 180^\circ$ $= (5-2) \times 180^\circ$ $= 3 \times 180$ $= 540^\circ$ $\frac{540}{5 \text{ angles}} = 108^\circ$ $360^\circ - 120^\circ - 108^\circ = 132^\circ$

A schoolyard is in the shape of a regular decagon, as pictured below.



$$\begin{aligned}
 &= (n-2) \times 180^\circ \\
 &= (10-2) \times 180^\circ \\
 &= 8 \times 180^\circ \\
 &= 1440^\circ \\
 &\frac{1440}{10 \text{ angles}} = 144^\circ \text{ per angle}
 \end{aligned}$$

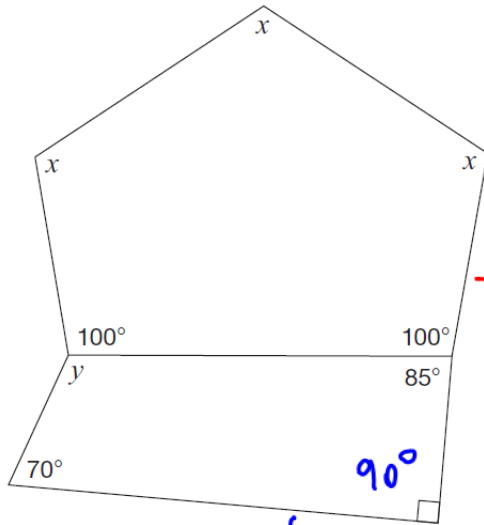
Complete the chart below with the values of x and y . Justify your answers using geometric properties.

Value	Justification using geometric properties
$x = \underline{54^\circ}$	<p>using SAT, $y = 144^\circ$</p> <p>$180 = x + 90 + 36$ $x = 180 - 90 - 36$ $x = 54^\circ$</p> <p>Triangle adds up to 180°</p>
$y = \underline{144^\circ}$	<ul style="list-style-type: none"> - 8 triangles in the decagon - $180^\circ \times 8 = 1440^\circ$ in the whole decagon - $\frac{1440^\circ}{10 \text{ angles in total}} = 144^\circ$

2014

31 Daring Diagram

A diagram is shown below.



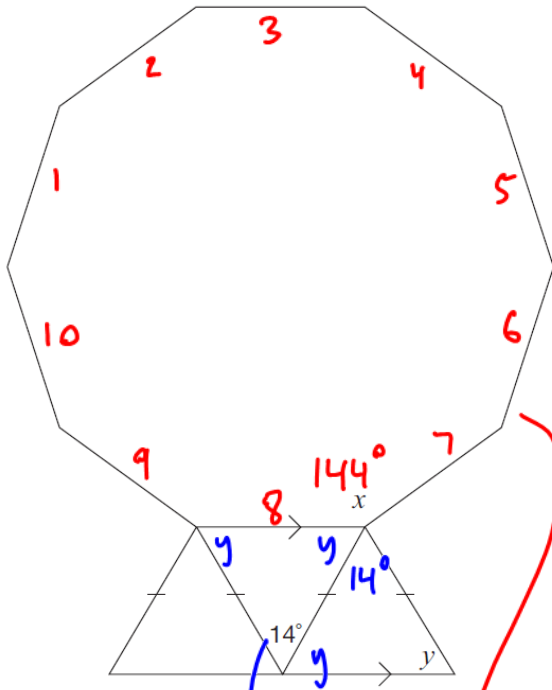
Complete the table below with the values of x and y . Justify your answers using geometric properties.

Value	Justification using geometric properties
$x = 113^\circ$	$(n-2) \times 180^\circ$ $(5-2) \times 180^\circ$ $3 \times 180^\circ$ $= 540^\circ$ $540 = x + x + x + 100 + 100$ $540 - 100 - 100 = 3x$ $340 = 3x$ $\frac{340}{3} = x \quad x = 113^\circ$
$y = 115^\circ$	$(n-2) \times 180^\circ$ $(4-2) \times 180^\circ$ $2 \times 180^\circ$ $= 360^\circ$ $360 = y + 85 + 90 + 70$ $360 = y + 245$ $360 - 245 = y$ $115^\circ = y$

2013

31 Diamond Cut

The diagram below shows a regular decagon and three isosceles triangles.



Determine the values of x and y . Justify your answers using geometric properties.

Value	Justification using geometric properties
$x = 144^\circ$	$(n-2) \times 180^\circ$ $(10-2) \times 180^\circ$ $8 \times 180^\circ$ $= 1440^\circ$ $\frac{1440^\circ}{10 \text{ angles}} = 144^\circ$
$y = 83^\circ$	\checkmark isosceles triangle $- 2 \text{ sides \& angles are the same}$ $180^\circ = y + y + 14$ $180 - 14 = 2y$ $166 = 2y$ $y = \frac{166}{2}$ $y = 83^\circ$