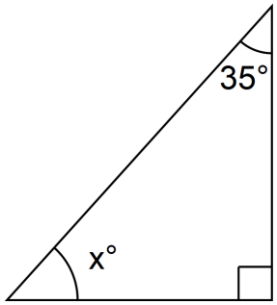
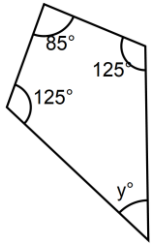
Problem 5

Calculate x

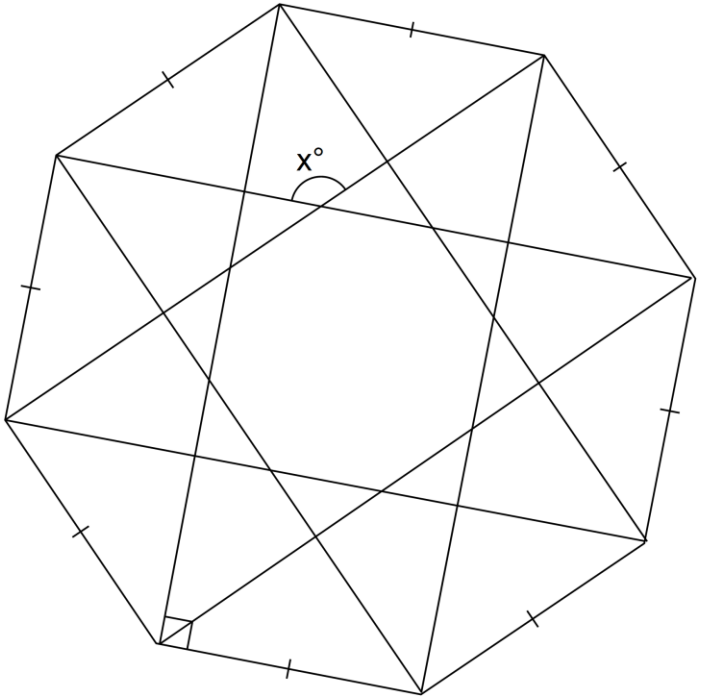


Calculate y



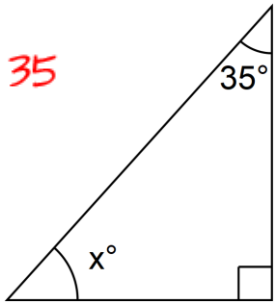
Calculate the sum of the interior angles in a 5 sided polygon

Calculate x



Problem 5

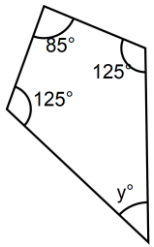
Calculate x



180 - 90 - 35

= 55°

Calculate y



360 - 125 - 125 - 85

= 25°

Calculate the sum of the interior angles in a 5 sided polygon

180 x 3

= 540°

Calculate x

Interior angle of a regular octagon

(180 x 6)/8 = 135

x = 135°

y = 135 - 90

= 45°

z = 135 - 45 - 45

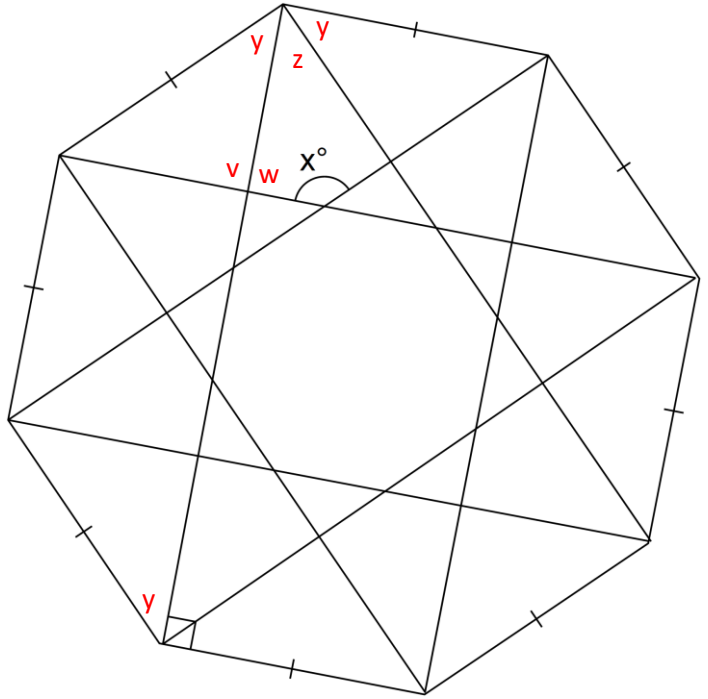
= 45°

w = (360 - 135 - 45)/2

= 90°

w = 180 - 90

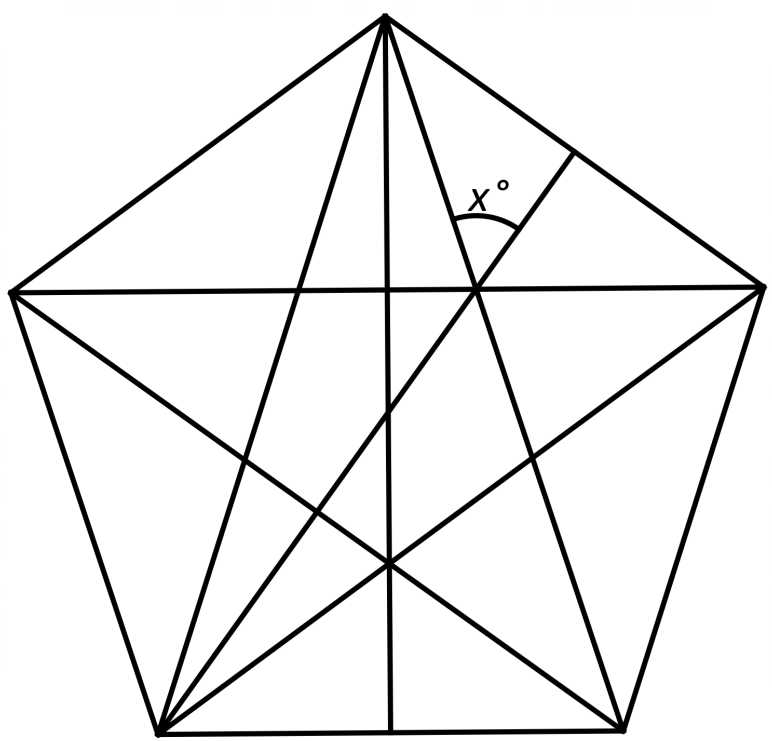
= 90°



PROBLEM 5A

The polygon is a regular pentagon.

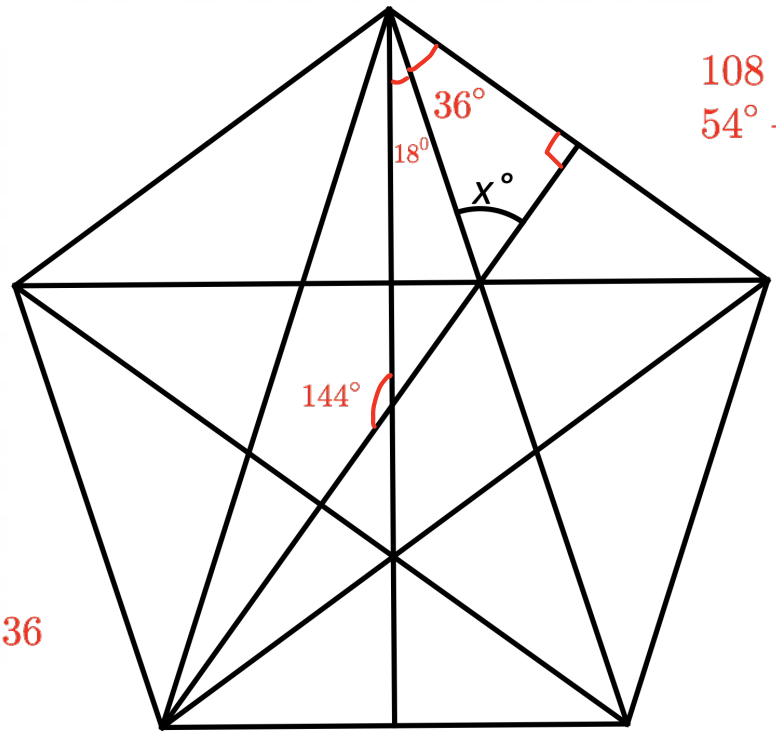
Calculate x



PROBLEM 5A

The polygon is a regular pentagon.

Calculate x



5 sided regular polygon

$(5-2) \times 180^\circ \div 5 = 108^\circ$

$108 \div 2 = 54^\circ$

$54^\circ - 18 = 36^\circ$

$180 - 90 - 36 = 54^\circ$

$360 \div 5 \times 2 = 144^\circ$

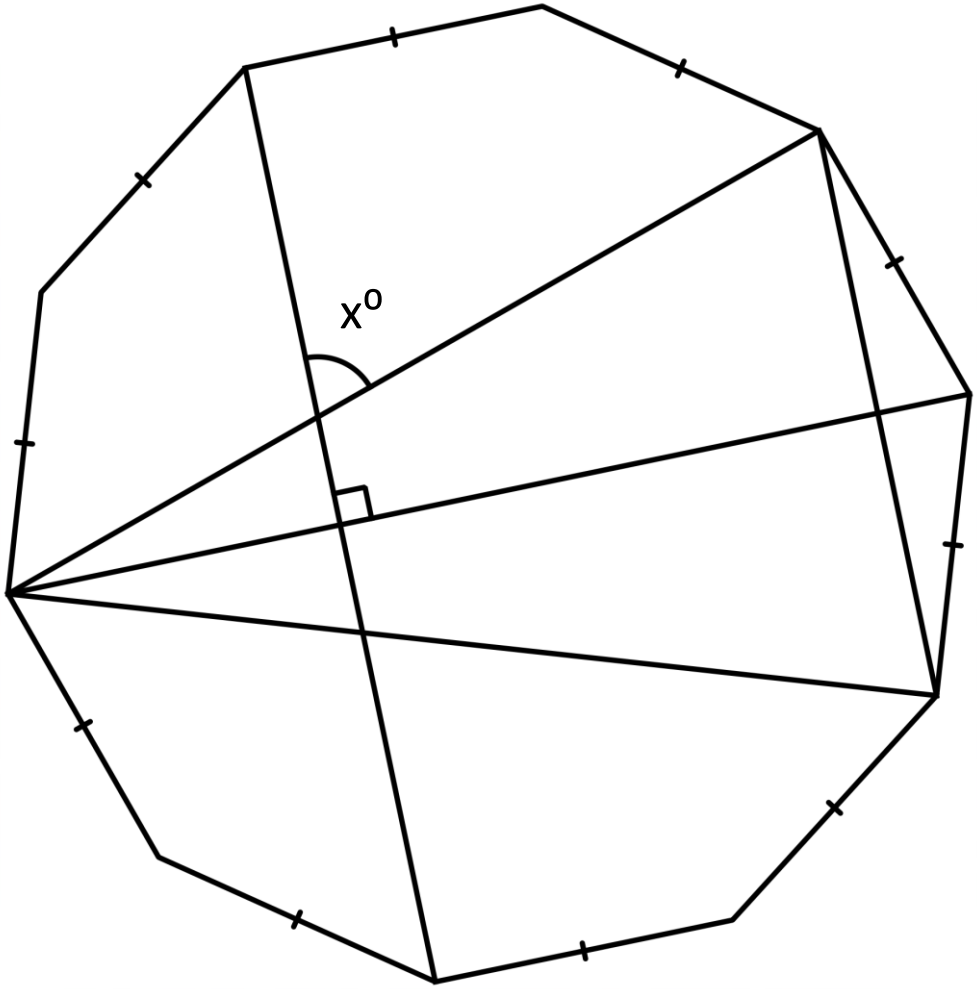
$180 - 144 = 36$

$36 \div 2 = 18^\circ$

$x = 54^\circ$

PROBLEM 5B

Calculate x



PROBLEM 5B

Calculate x

10 sided polygon

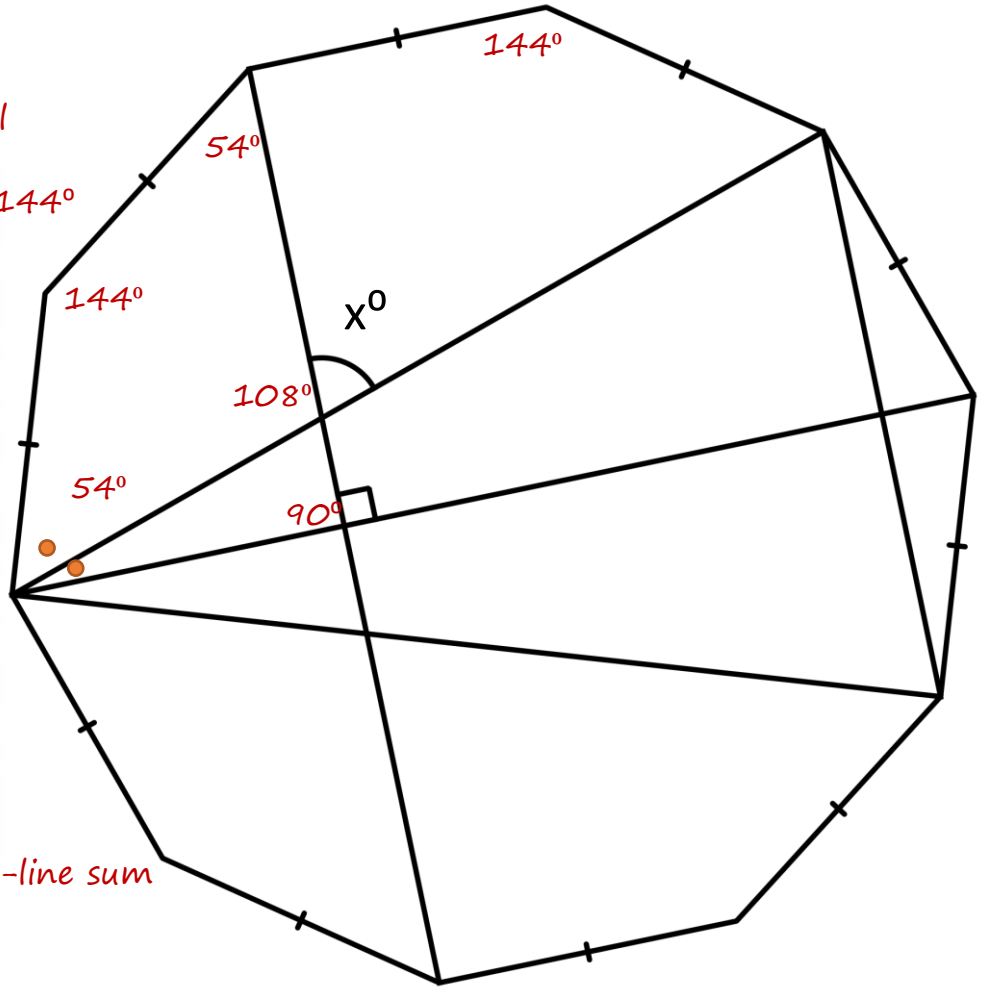
Interior angle = (10-2)×180÷10 = 144°

144°÷2 = 72°

360 in a quadrilateral

360° – 90° – 72° - 144°

= 54°



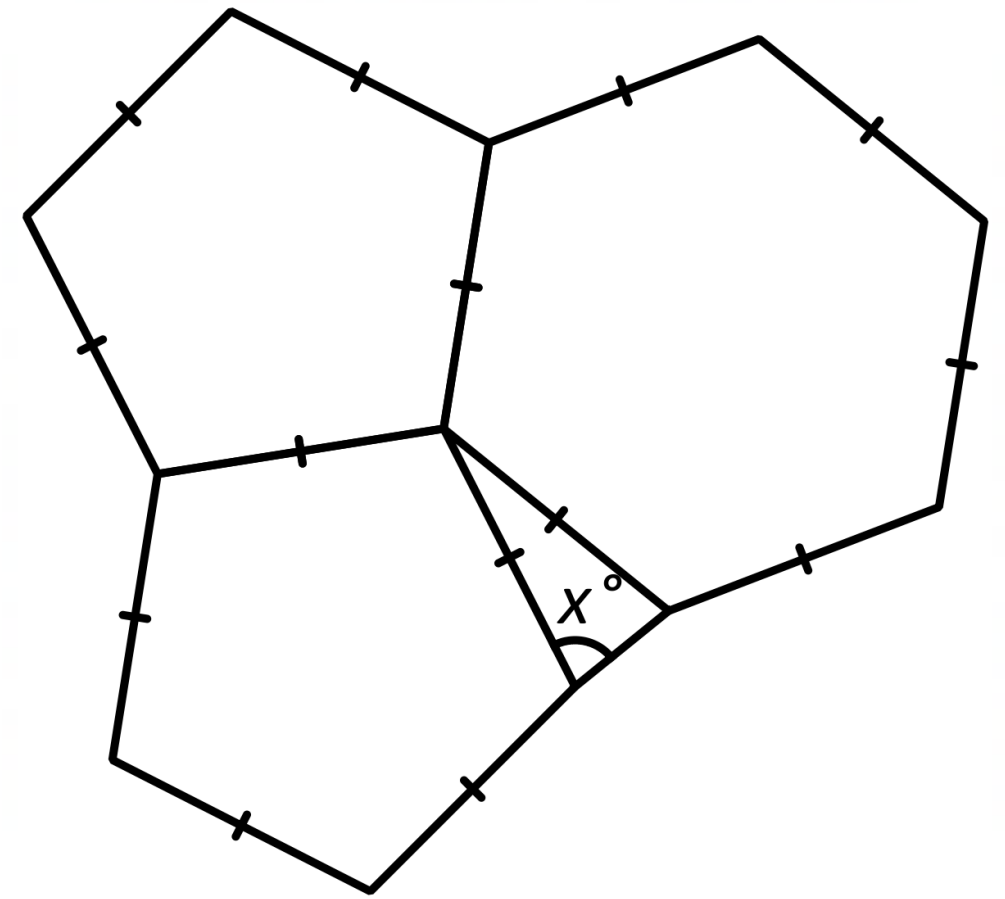
144°÷2 = 72°

Angles on a straight-line sum to 180°

x + 108° = 180° x =72°

PROBLEM 5C

Calculate x



PROBLEM 5C

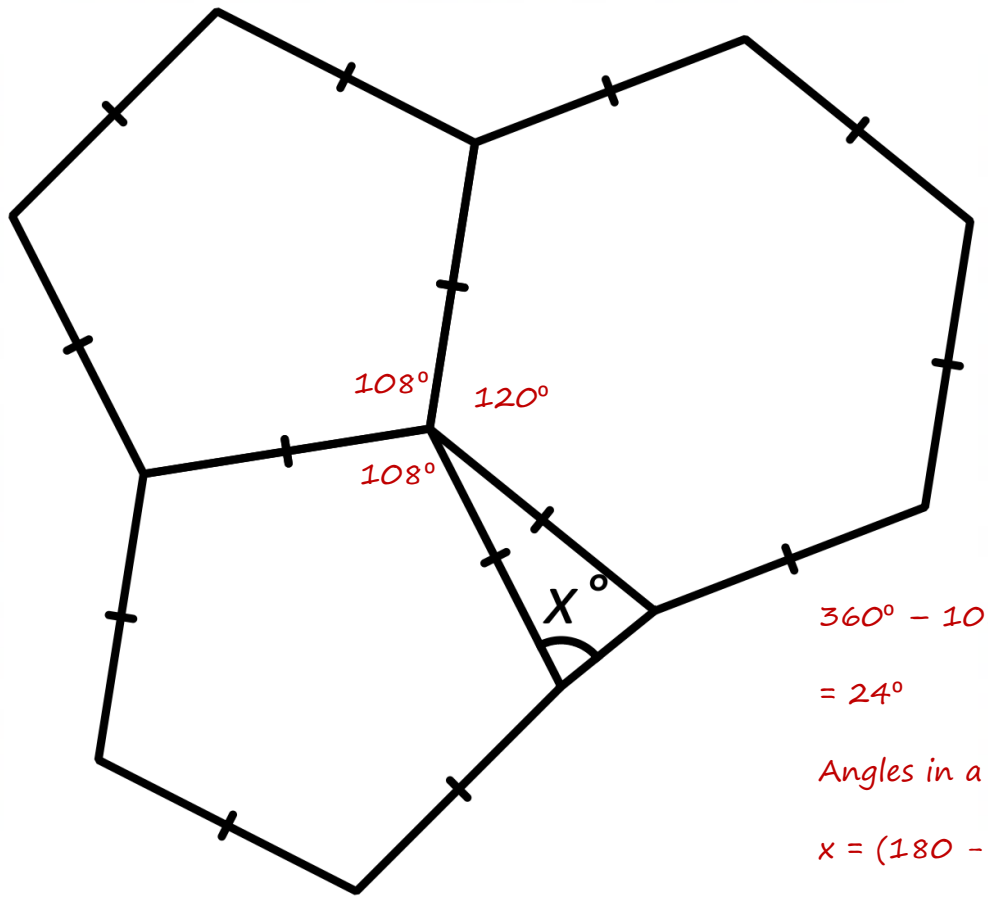
Calculate x

Five sided polygon

Interior angle

$= (5-2)\times 180^\circ \div 5$

$= 108^\circ$



Six sided polygon

Interior angle

$= (6-2)\times 180^\circ \div 6$

$= 120^\circ$

$360^\circ - 108^\circ - 108^\circ - 120^\circ$

$= 24^\circ$

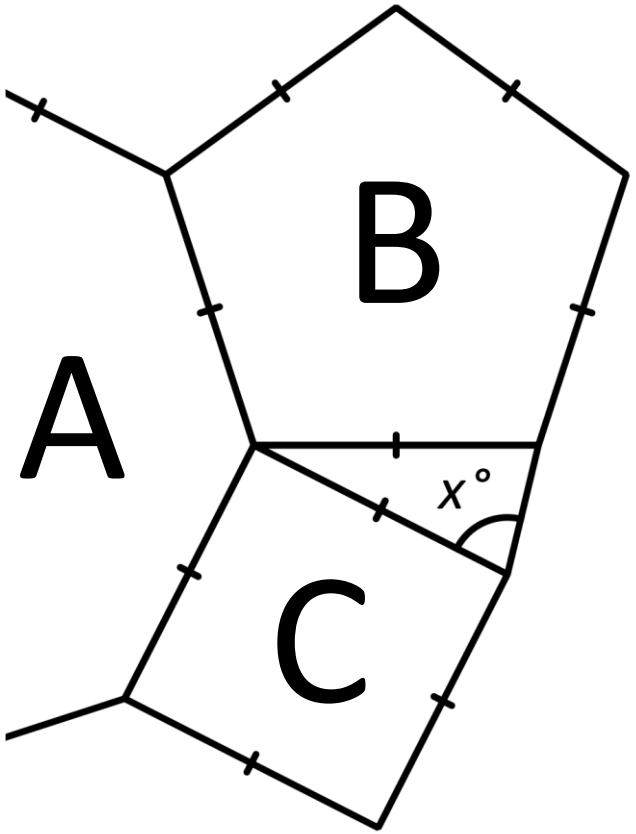
Angles in a triangle sum to 180°

$x = (180 - 24) \div 2$

$= 78^\circ$

PROBLEM 5D

If angle x = 79°, how many sides does the regular polygon A have?



PROBLEM 5D

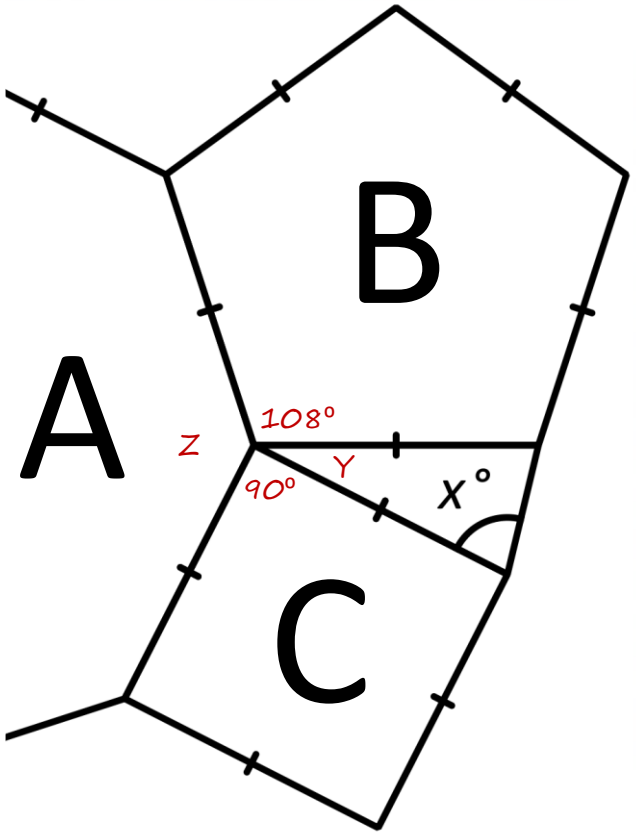
If angle x = 79°, how many sides does the regular polygon A have?

Five sided polygon

Interior angle

= (5-2)×180°÷5

= 108°



Isosceles Triangle

Y = 180° - 79° - 79°

Y = 22°

Z = 360° – 108° -90° - 22°

= 142°

Interior angle = 140°

Exterior angle : 180° – 140° = 40°

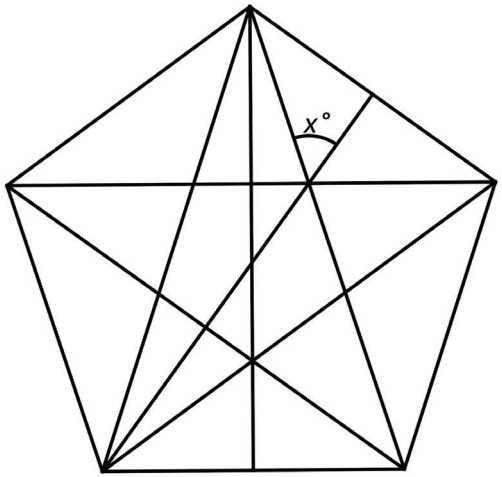
360° ÷ 40 = 9

9 sided polygon

PROBLEM 5A

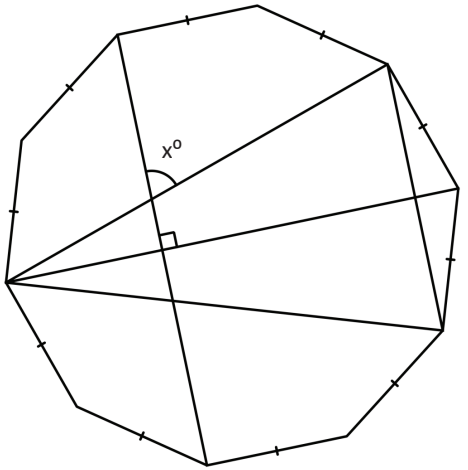
The polygon is a regular pentagon.

Calculate x



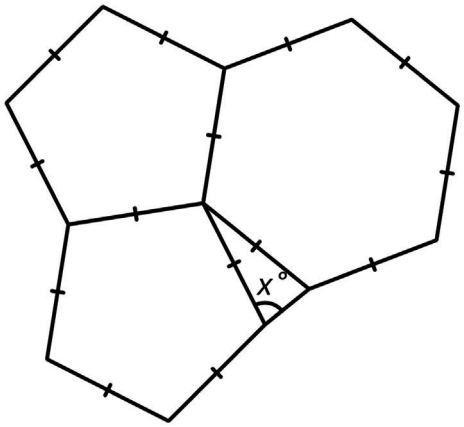
PROBLEM 5B

Calculate x



PROBLEM 5C

Calculate x



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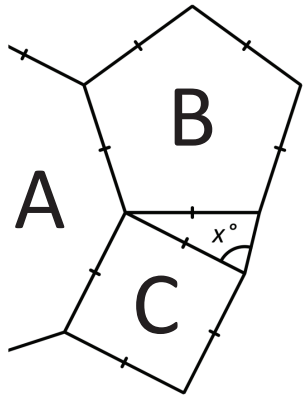

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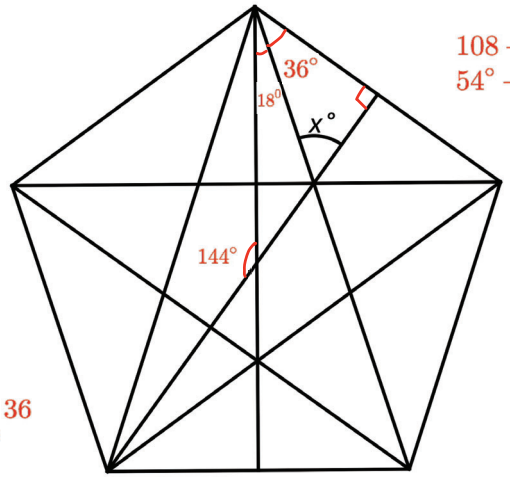
$(5-2) \times 180° \div 5 = 108°$



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$54° - 18 = 36°$

$180 - 90 - 36$
$= 54°$

$360 \div 5 \times 2$
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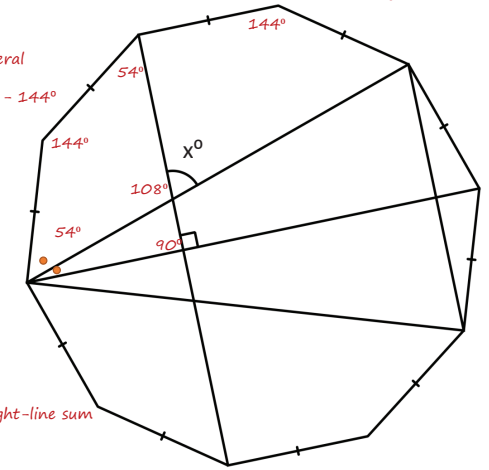

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Interior angle

= (5-2)×180°÷5

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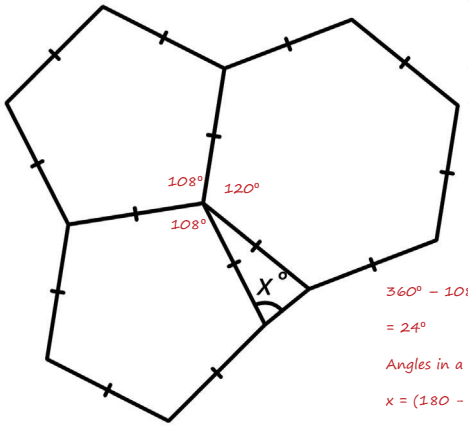

Six sided polygon

Interior angle

= (6-2)×180°÷6

= 120°

360° – 108° – 108° – 120°

= 24°

Angles in a triangle sum to 180°

x = (180 - 24) ÷ 2

= 78°

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Interior angle

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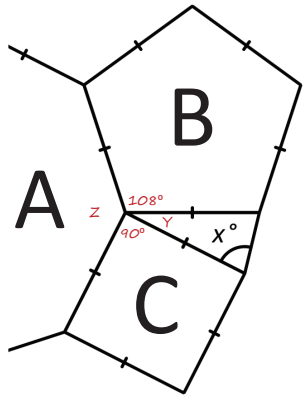
= 108°



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