Geometry

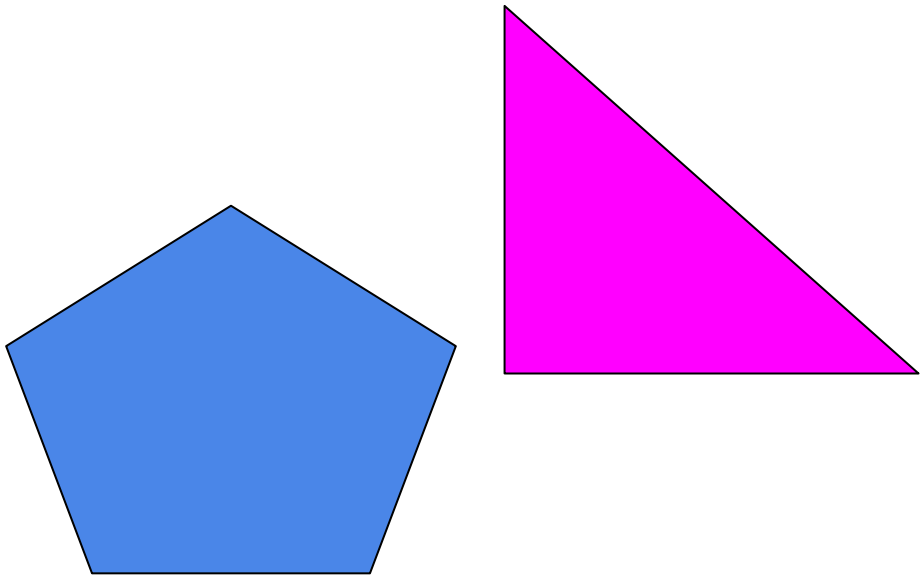
Unit 3

Lesson 1: Naming and Sorting Polygons by Sides

Naming Polygons…

We can name polygon's by the number of sides…

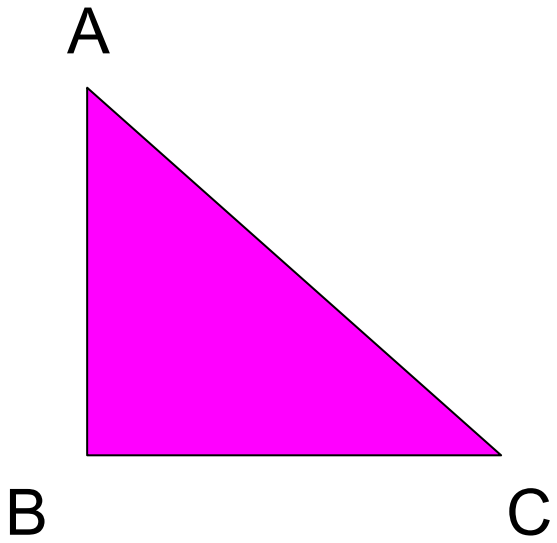
1) Triangle- 3 sides
2) Pentagon- 5 sides
3) Hexagon- 6 sides
4) Octagon- 8 sides



Naming Polygons…

By their vertices..

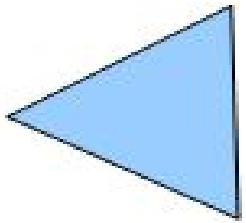
Label each vertex with different capital letters.



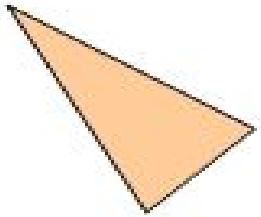
Naming Polygons…

By the number of equal sides…

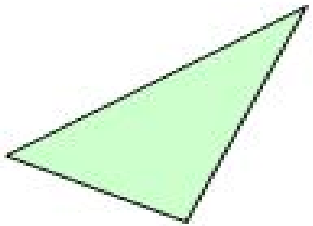
1) An equilateral triangle has all equal sides
2) An isosceles triangle has 2 equal sides
3) A scalene triangle has no equal sides



Equilateral



Isosceles



Scalene

https://www.brainpop.com/math/geometryandmeasurement/polygons/

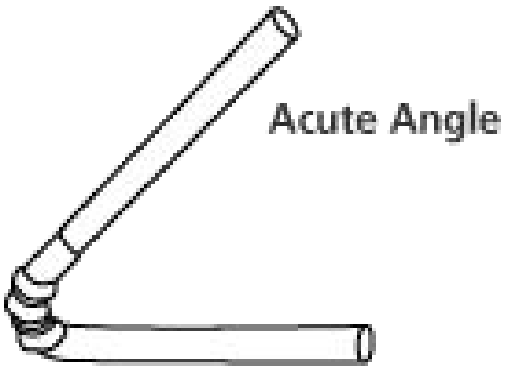
https://www.brainpop.com/math/geometryandmeasurement/typesoftriangles/

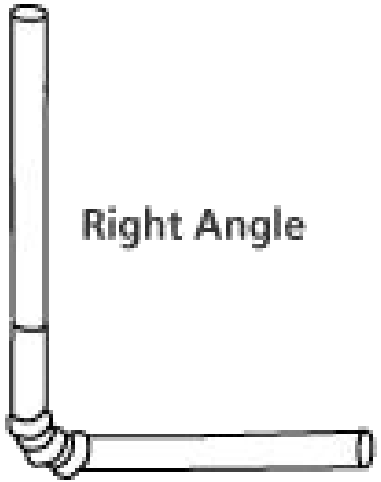
Naming and Sorting Polygons by Sides– Questions

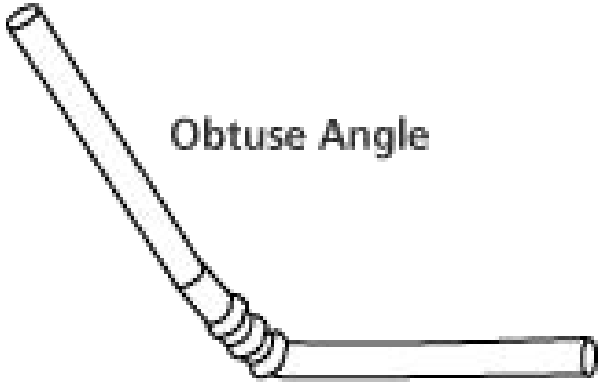
(Questions glued in notebooks)

Lesson 2: Measuring and Constructing Angles

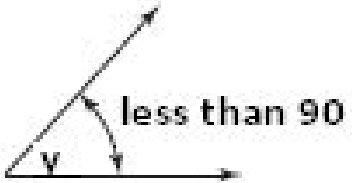
We name angles according to their size..



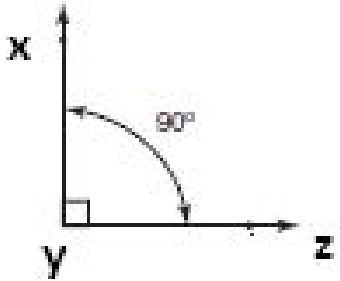




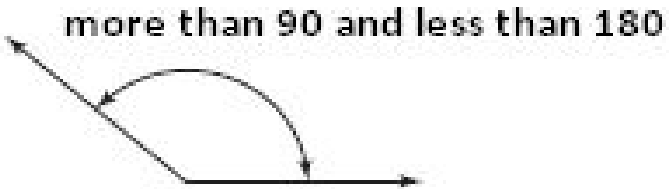
We name angles according to their size..



Acute angle



Right angle



obtuse angle

How to use a protractor…

https://www.mathsisfun.com/geometry/protractor-using.html

Lesson 3-2: Measuring and Constructing Angles

(Questions glued in notebooks)

1. Measure each angle with a protractor.
Name each angle. Use the words acute, obtuse, and right.

2. Use a ruler and a protractor. Construct an angle with each measure.

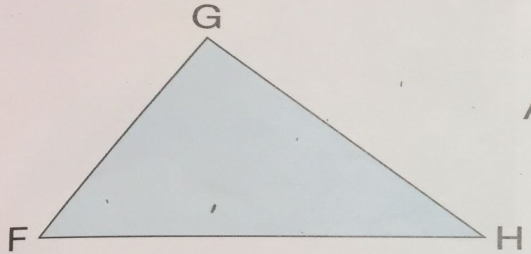
a) 15° b) 105° c) 75°

d) 165°

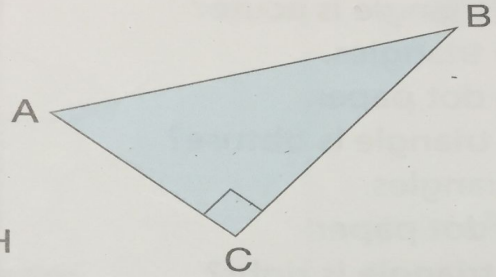
Lesson 3: Naming and Sorting Polygons by Angles

➤ We can sort and name triangles by angle measure.

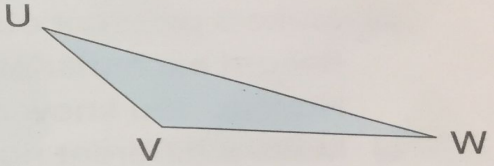
An **acute triangle** has all angles less than 90°.



A **right triangle** has one 90° angle.

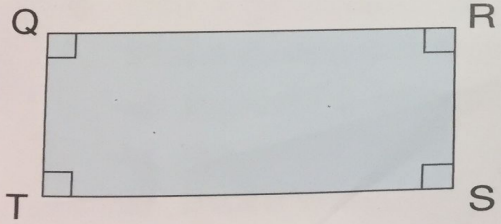


An **obtuse triangle** has one angle greater than 90°.

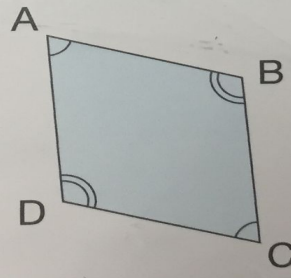


➤ We can sort and name quadrilaterals by angles.

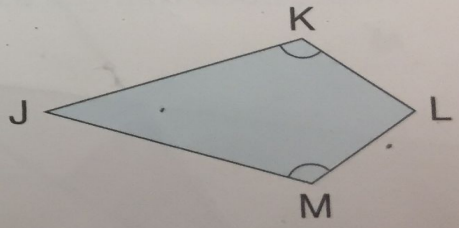
A rectangle has 4 right angles.



A parallelogram has 2 pairs of equal angles.



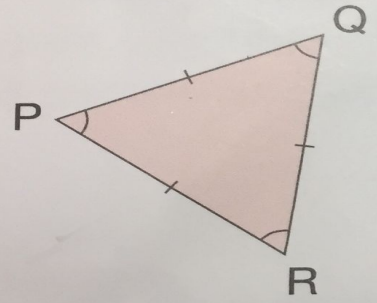
A kite has 1 pair of equal angles.



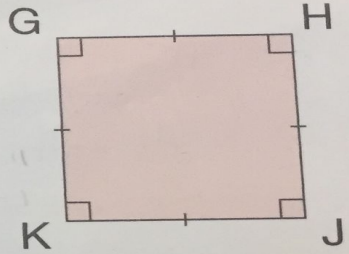
➤ We can sort polygons by the numbers of equal sides and equal angles.

A **regular polygon** has all sides equal and all angles equal.

An equilateral triangle is a regular triangle. It has 3 equal sides. Each angle measures 60°.



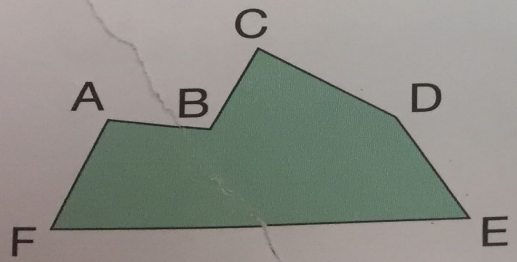
A square is a regular rectangle. It has 4 equal sides. Each angle measures 90°.

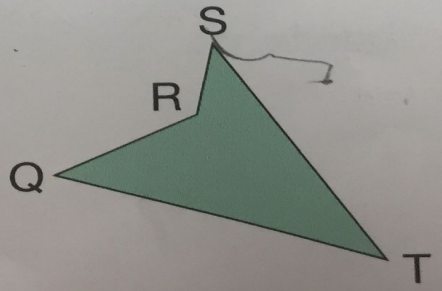


$\angle G = 90°$

The symbol $\angle$ means angle.

An **irregular polygon** does not have all sides equal and all angles equal.





Questions: Naming and Sorting Polygons by Angles

(Questions glued in notebooks)

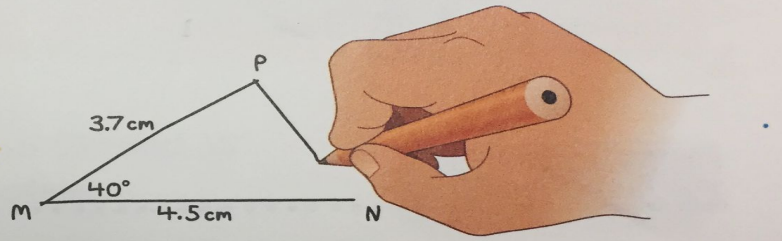
Lesson 4: Constructing Triangles

You can use a ruler and a protractor to construct a triangle.

Construct triangle MNP.
The length of MN is 4.5 cm.
The measure of ∠M is 40°.
The length of MP is 3.7 cm.

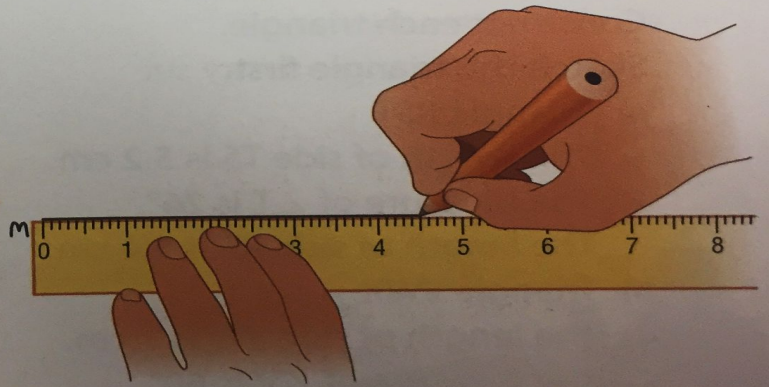
Step 1

Sketch the triangle first.
Label each side and angle.
This sketch is *not* accurate.
It shows each given measure.



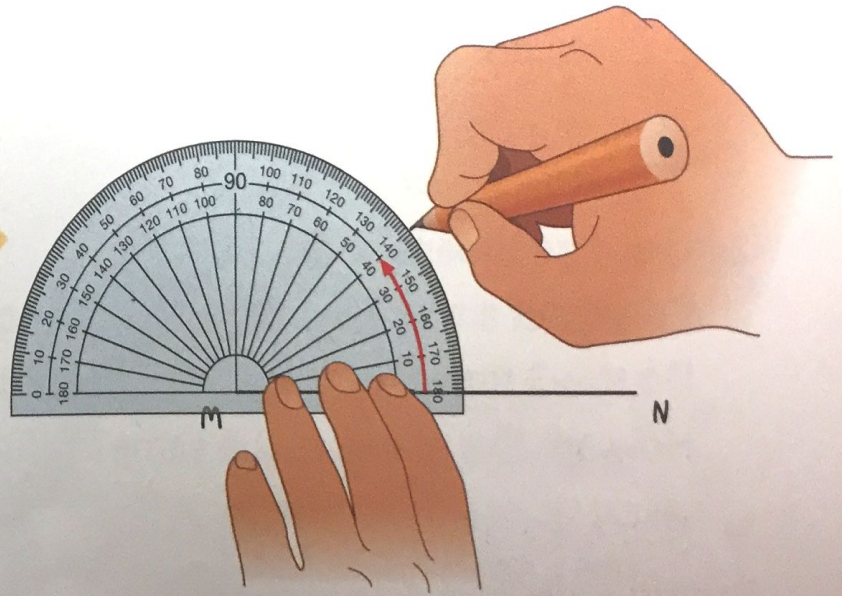
Step 2

Use a ruler to draw side MN
4.5 cm long.



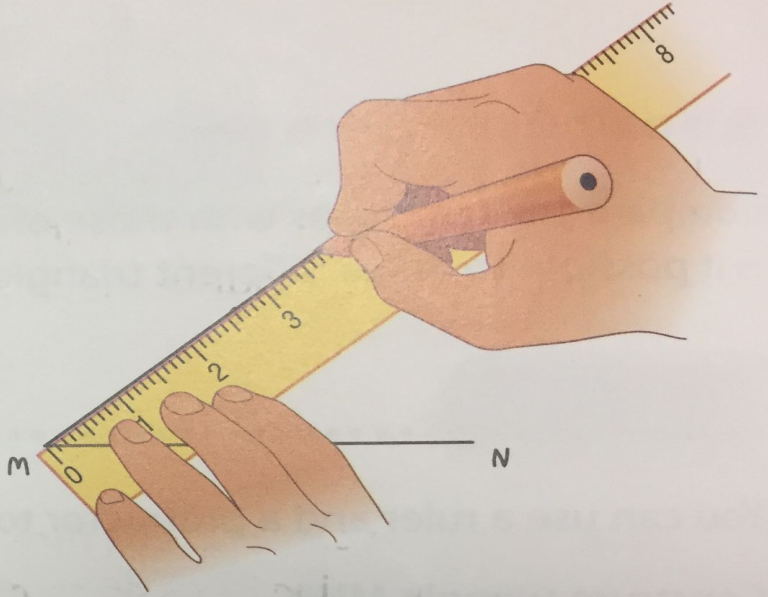
Step 3

Place the protractor on MN,
with its centre at M.
From 0° on the inner circle,
measure an angle of 40° at M.



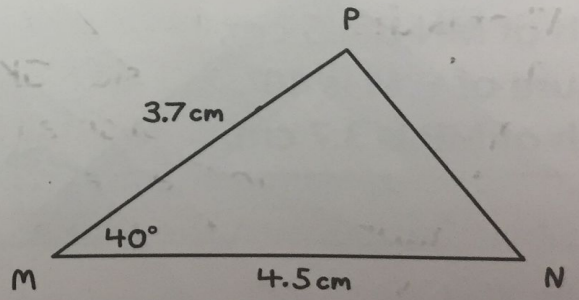
Step 4

Remove the protractor.
Join M to the mark at 40°.
Measure 3.7 cm from M.
Mark the point P.



Step 5

Use a ruler to join P to N
to form side NP.
Label the triangle with its measures.



Questions: Constructing Triangles
(Questions glued in notebooks)

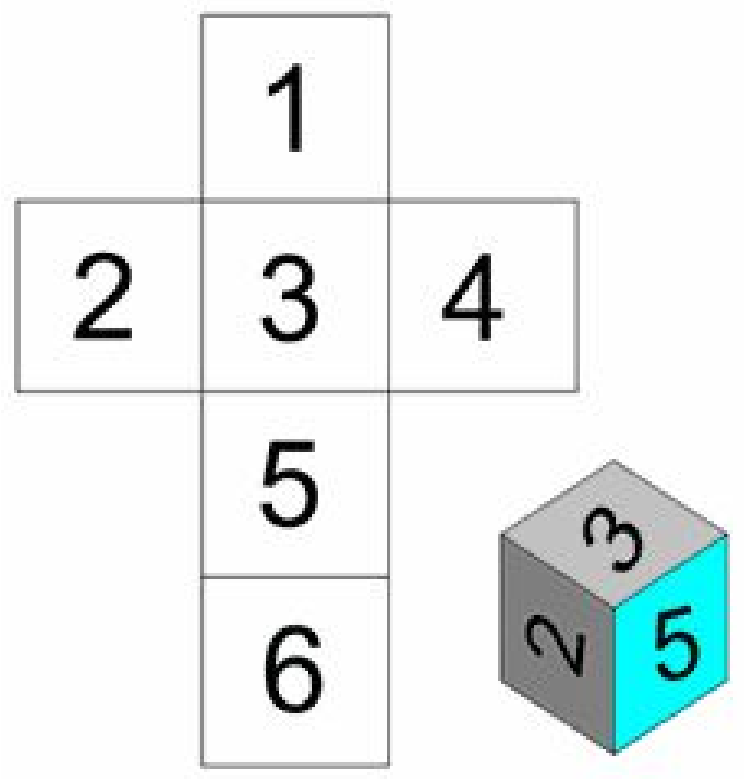
Lesson 5: Making Nets

What is a net?

A pattern that you can cut and fold to make a model of a solid shape.

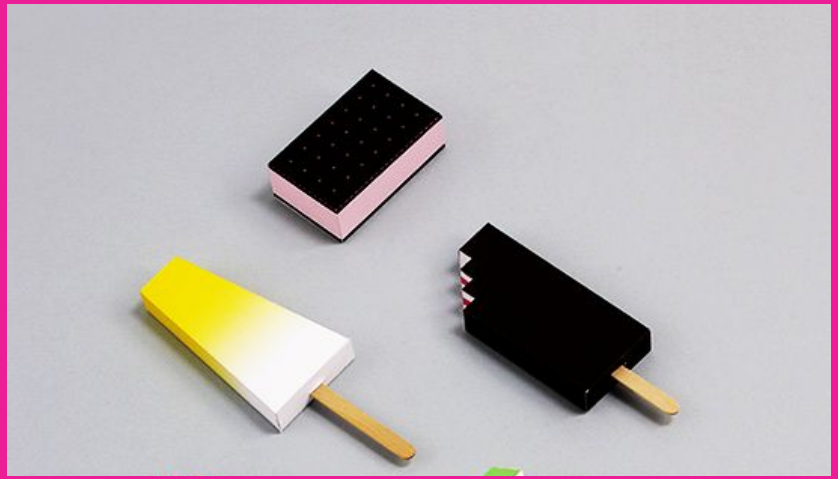
This is a net of a cube.

Also means what is left after all deductions have been made.



Let's Explore...

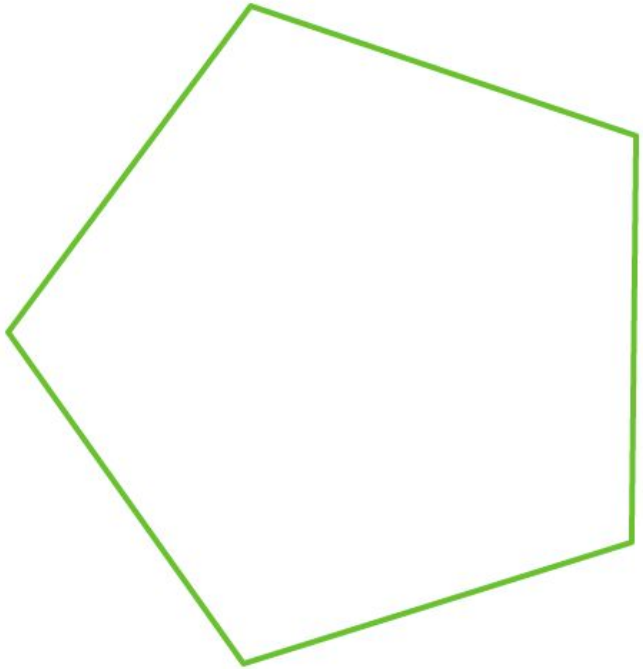
https://www.mathsisfun.com/definitions/net.html



Questions: Making Nets

Let’s Review!

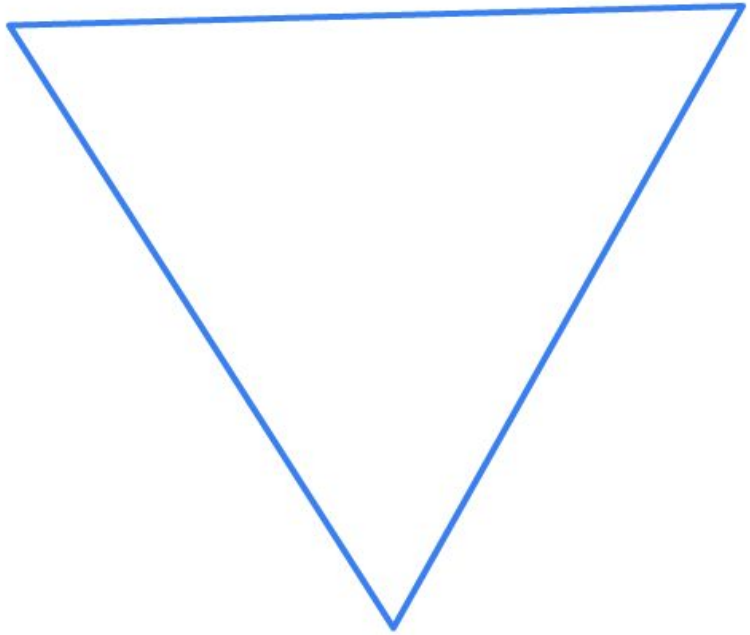
Is this shape a regular polygon?



yes

no

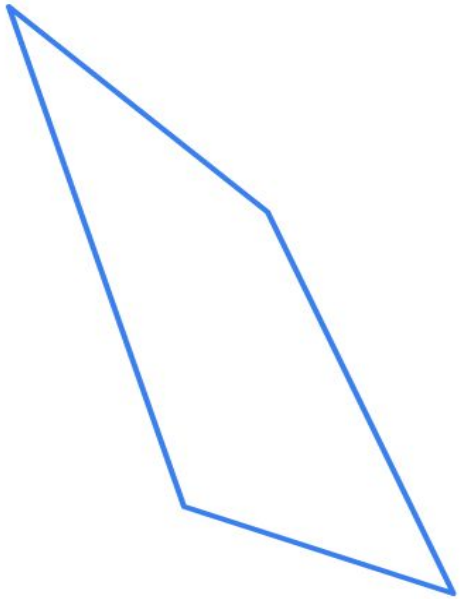
Is this shape a regular polygon?



yes

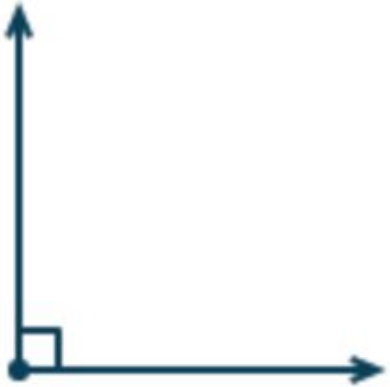
no

Is this shape a regular polygon?



yes

no

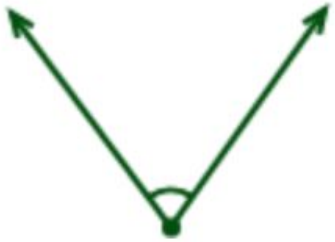


right angle

greater than a right angle

less than a right angle

Is this angle greater than, equal to, or less than a right angle?



greater than a right angle

equal to a right angle

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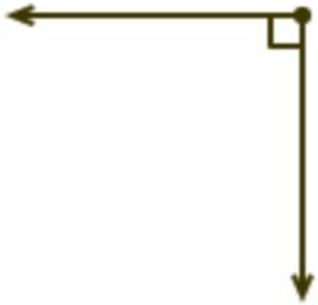


greater than a right angle

equal to a right angle

less than a right angle

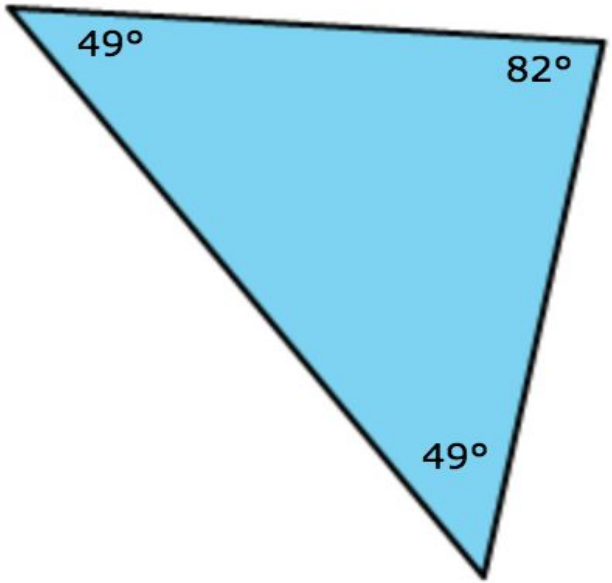
Is this angle greater than, equal to, or less than a right angle?

greater than a right angle

equal to a right angle

less than a right angle

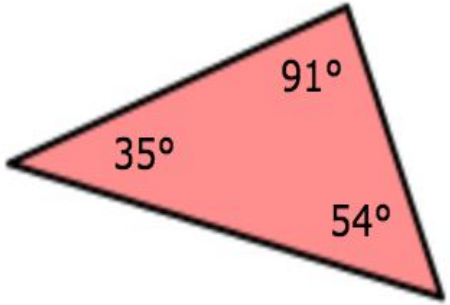
Is this triangle equilateral?



yes

no

What kind of triangle is this?

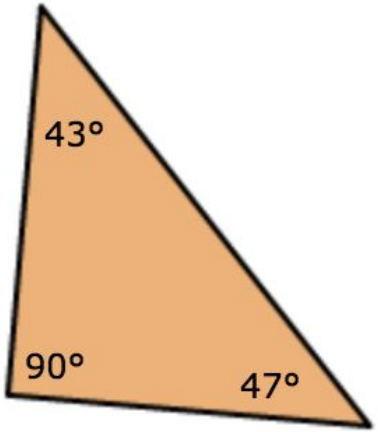


acute

right

obtuse

What kind of triangle is this?



acute

right

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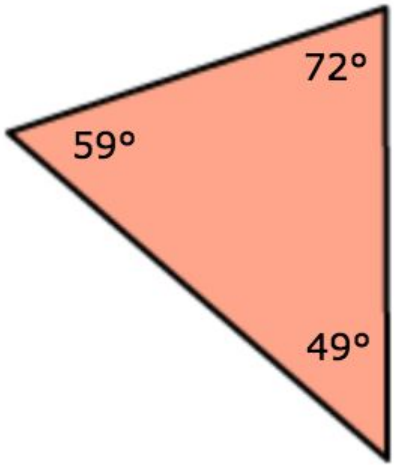


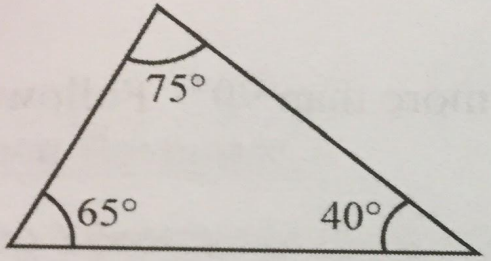
acute

right

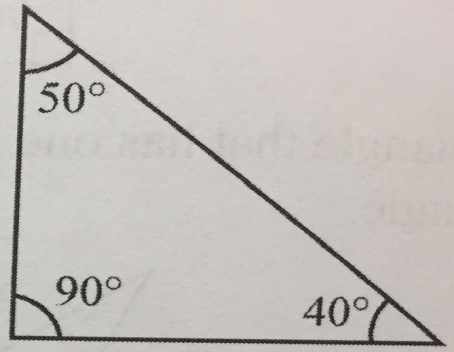
obtuse

Which of the following triangles is an acute triangle?

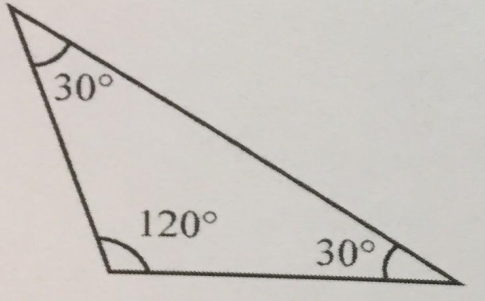
A.



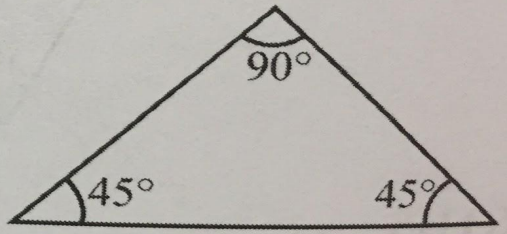
B.



C.

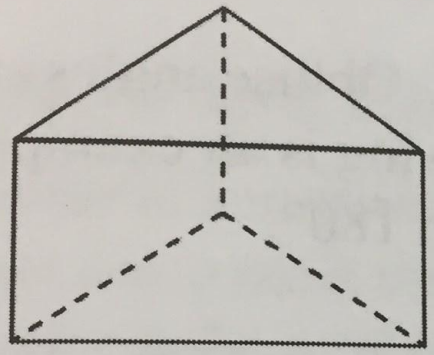


D.

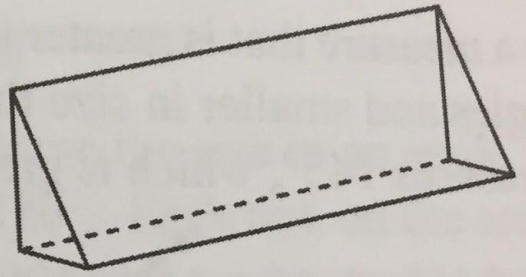


4. Which of the following figures shows a right prism?

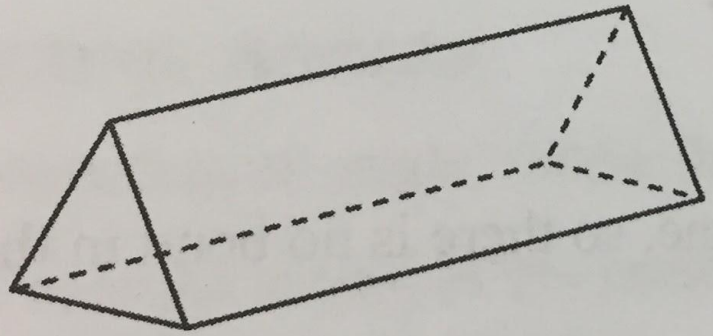
A.



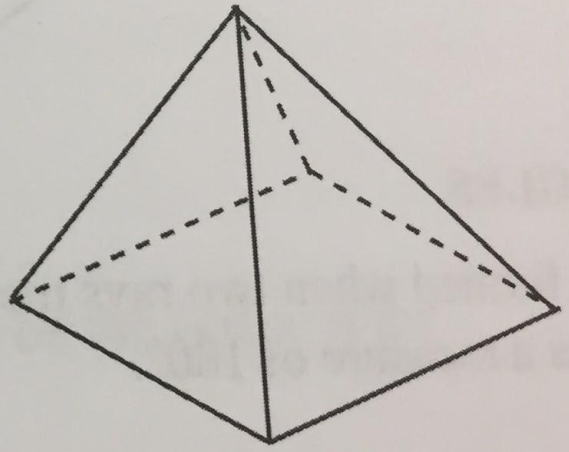
B.



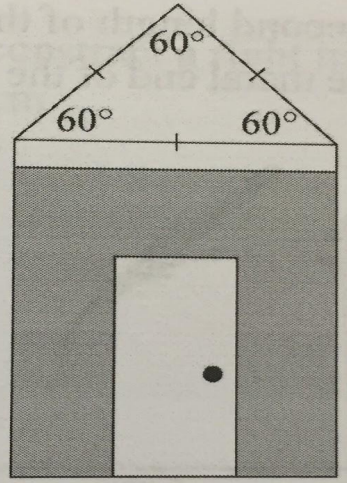
C.



D.



9. Willie drew a picture of a house. What type of triangle did he draw for the roof?



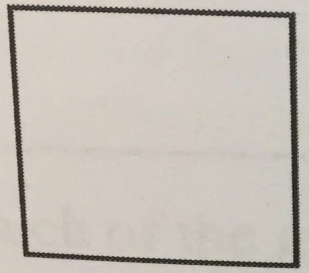
A. An obtuse triangle

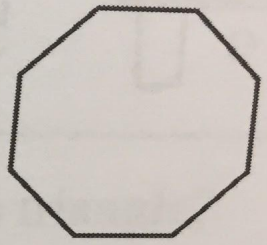
B. A scalene triangle

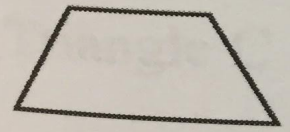
C. An isosceles triangle

D. An equilateral triangle

2. Which of the following shapes is **not** a regular polygon?

A. 

B. 

C. 

D.