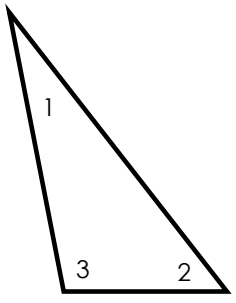
3.1 Interior Angles of Triangles

Objective: Triangles. What are they? Whoa. That's deep.

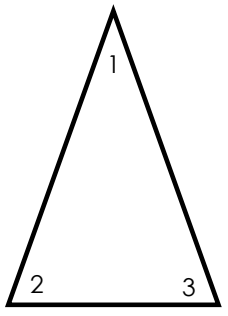
There are 3 different types of triangles

Scalene



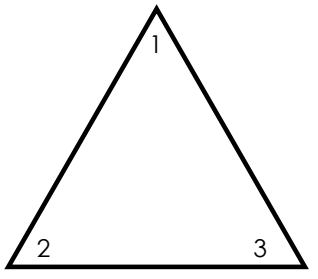
_____ sides
_____ angles

Isosclese



_____ sides
_____ angles

Equilateral



_____ sides
_____ angles

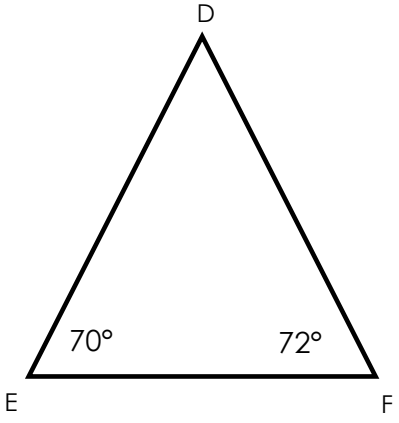
Interior Angles of a Triangle

The _____ of the _____angles in a triangle **always** add up to _____

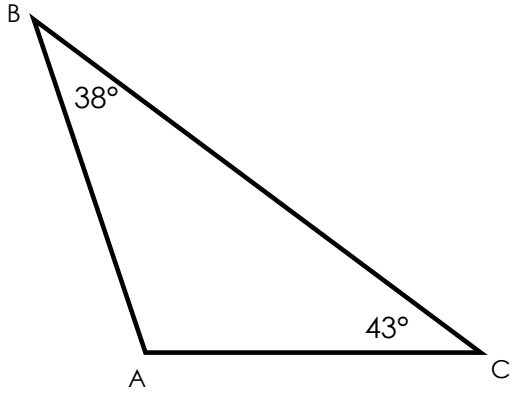
Fun Fact!

∠____ + ∠____ + ∠____ = _____

Find the missing angles in each **scalene** triangle
(Hint: Just subtract the two given angles from 180°)



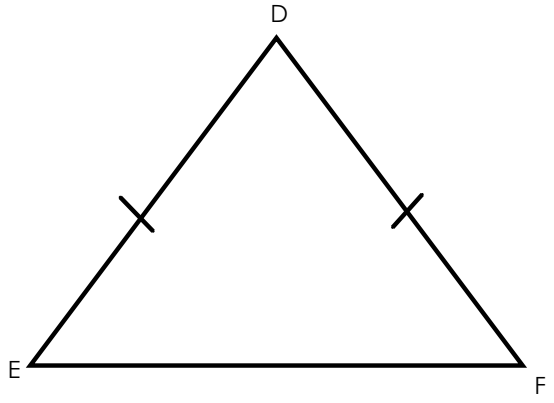
m∠D =_____



m∠A =_____

ISOSCELES TRIANGLE THEOREM

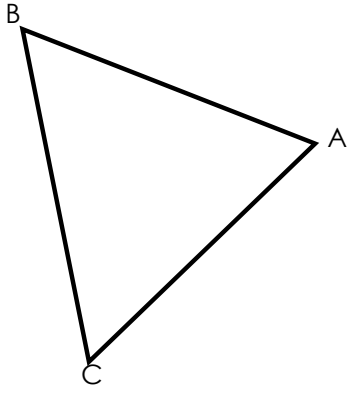
If two sides are _____ in a triangles, then there must be two _____ angles



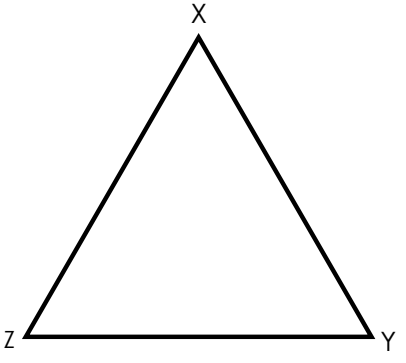
If $\overline{ED} \cong \overline{DF}$
then we know
_____ ≅ _____

Congruent _____ are
opposite congruent _____

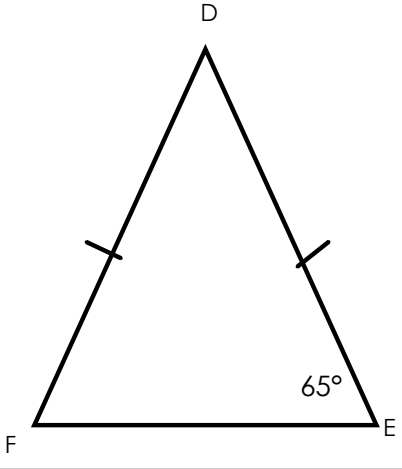
In triangle ABC, AB ≅ AC. Which angles are congruent in the triangle?



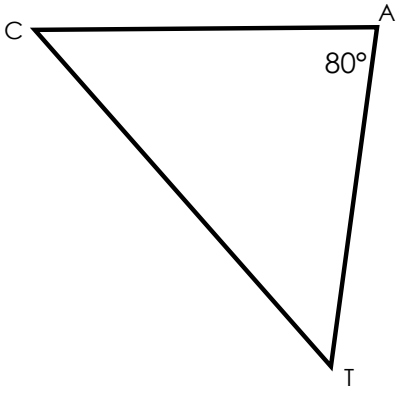
In triangle XYZ, XY ≅ ZY. Which angles are congruent in the triangle?



Find the missing angles in triangle DEF



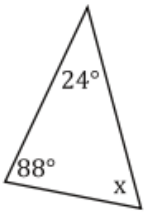
In the figure below $\overline{CA} \cong \overline{AT}$
Find the missing angles



Independent Practice

For each, find the measure of the missing angle.

1.



Triangle Sum Theorem

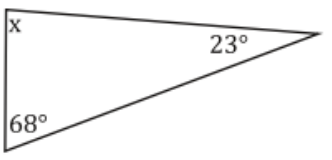
$24°+88°+x=180°$

$112°+x=180°$

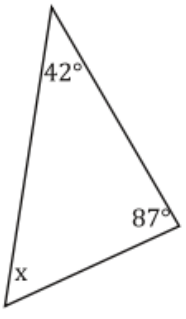
$-112° \quad -112°$

$x=68°$

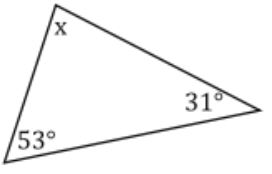
2.



3.



4.



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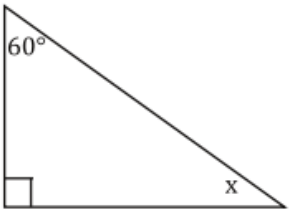

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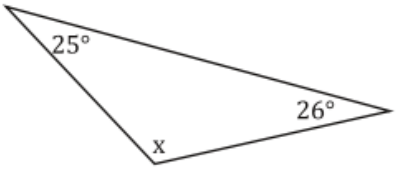

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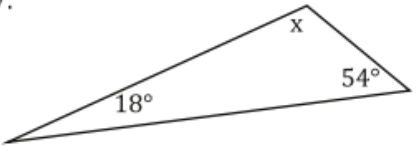

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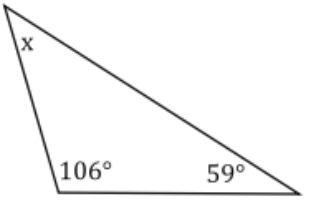
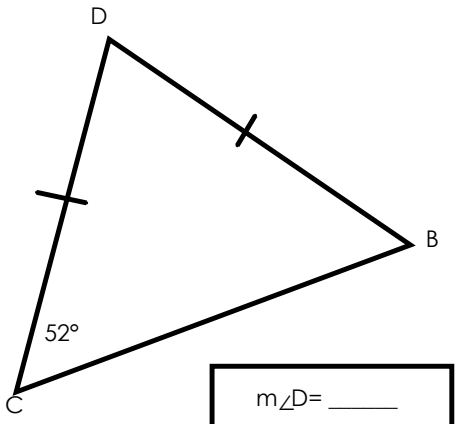


In triangle STU, $\overline{SU} \cong \overline{TU}$. Which angles are congruent in the triangle?
(Draw triangle below)

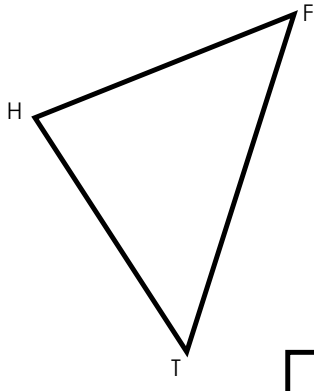
_____ ≅ _____

Find the measure of angle m∠D



m∠D= _____

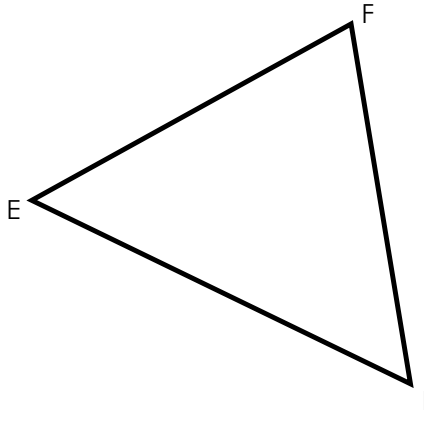
In the figure below $\overline{HF} \cong \overline{HT}$ and m∠H = 62°
Find the m∠F and m∠H



m∠F= _____

m∠T= _____

In triangle DEF, $\overline{ED} \cong \overline{EF}$ and m∠E = 55° .
Find the m∠F

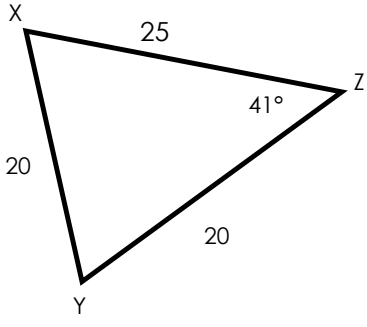


DF= _____

In triangle MOP, $\overline{OP} \cong \overline{PM}$ and the measure of m∠P = 62°. Find the m∠M.

m∠M= _____

Find the m∠Y



m∠Y = _____