MATH

Before we begin working with geometry, let's do some problem solving and exercise that muscle between your ears! The first thing you need to know is that a bellhop is a person who works in a hotel who delivers room service and carries guests' luggage.

Here's the situation:

Three people rent a hotel room for the night, and are told the price is 30 dollars. They each put in 10 dollars to pay for the room.

The hotel clerk realizes there was a mistake. The room was really only 25 dollars.

The clerk gives the bellhop the five dollars to refund to the guests.

The bellhop decides that it would be far too difficult for the 3 people to split the 5 dollars equally (and he works hard for a living), so he pockets 2 dollars and refunds 3 dollars. Now each of the guests gets 1 dollar back.

So if each of the three renters paid 9 dollars, their original 10 dollars minus the dollar bill each of them got back, that equals 27 dollars, so...

$$3x(\$10-1)=\$27$$

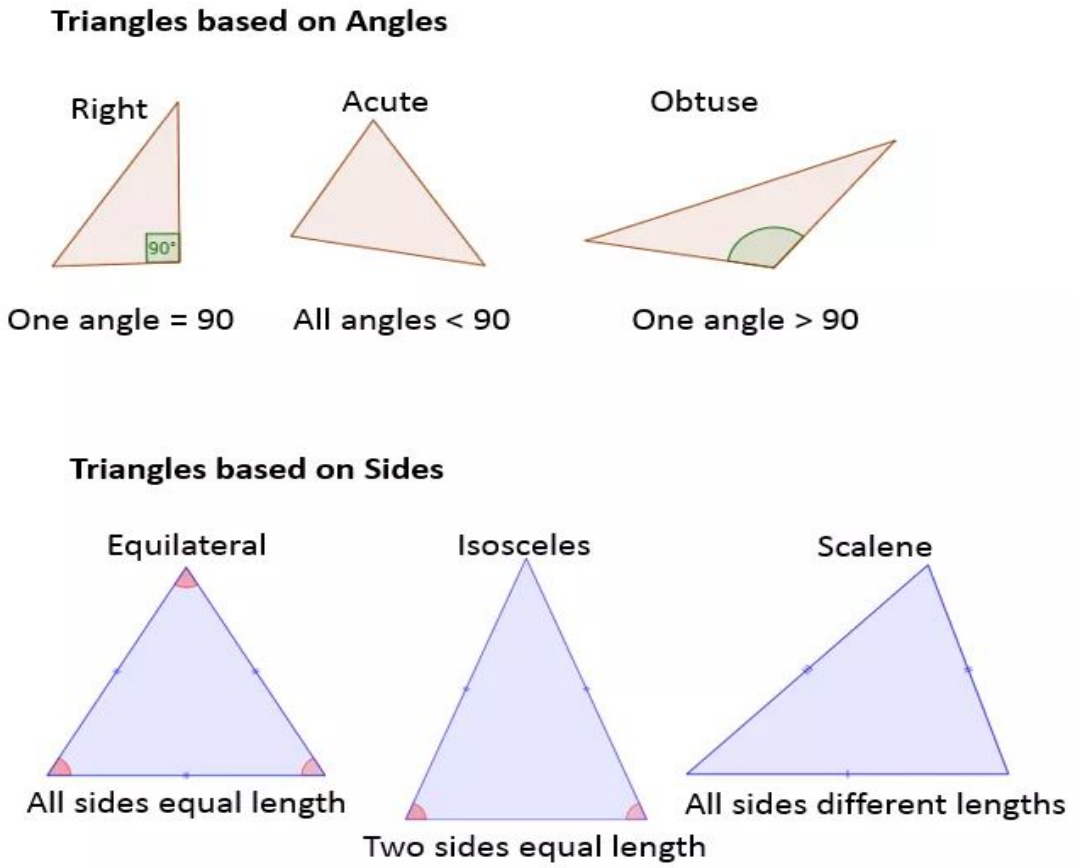
And we know the bellhop has 2 dollars, so...

$$\$27+2=\$29$$

WHERE IS THE OTHER DOLLAR???

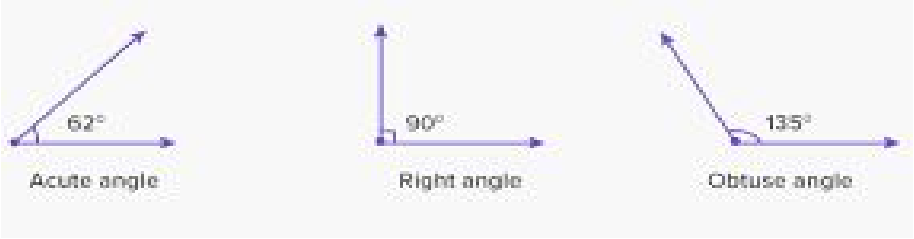
(On the back of this paper, show your work and explain how you think this all works.)

TRIANGLES



There are SIX different types of triangles, and they can be separated, or classified, by the length of the sides and or the degrees of the angles.

Types of Angles



Watch the Triangle Video at:
https://www.youtube.com/watch?v=JQUTVgT9RXY
There is a link on your teacher's website!

One type of triangle is a *right triangle*. It has a right angle that measures exactly 90°.
Look at the examples on the last page, and draw a couple <u>different</u> *right triangles*.

An *obtuse triangle* has an angle that measures larger than 90°. Draw an *obtuse triangle*.

An acute triangle has all angles measuring less than 90°. A good way to remember that an acute angle is a small, "cute" little angle. Draw an acute triangle.

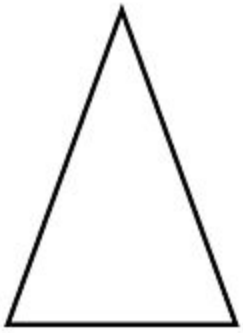
Length of Sides

An *equilateral triangle* has all sides the same length. You can remember this by thinking that all the sides are "equal". Draw an *equilateral triangle*.

An isosceles triangle has two sides the same length. Draw an *isosceles triangle*.

The last type of triangle is called a *scalene triangle*. All of its sides are different lengths. You know we are going to ask you to draw a *scalene triangle*, so you might as well do it.

One cool thing about triangles is that they are two different types of triangle at the same time. Look at this triangle.



How would you classify it by angle? _____

Hint: The top angle is less than 90°.

How would you classify it by length of sides?

_____

Hint: Two of the sides are the same length.

Did you say that the triangle on the last page was *acute* and *isosceles*? If so, you are correct!

Now look at the next two pages. There are 12 triangles, A-L shown. Can you identify each triangle by length of sides and angles? Try it. You don't have to write them down unless that would help you.

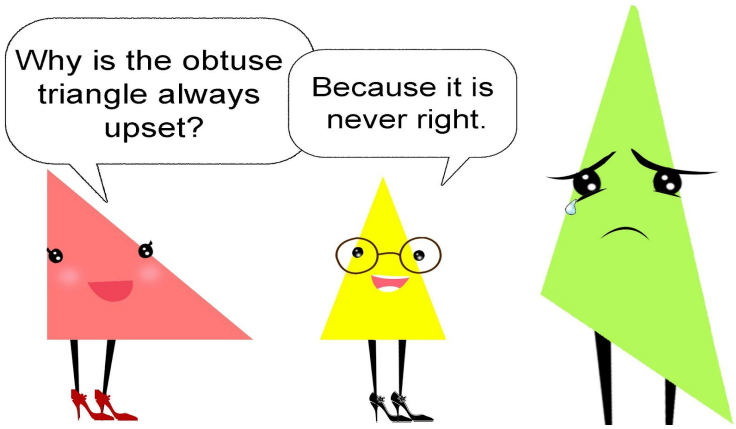
On the last page, there are three different Venn Diagrams. Write the letters of the types of triangles in the circles.

Which triangles are both Right and Isosceles? _____

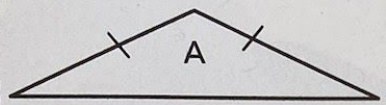
How many are classified as Acute and Equilateral? _____

Count the triangles that are both Obtuse and Scalene.
_____

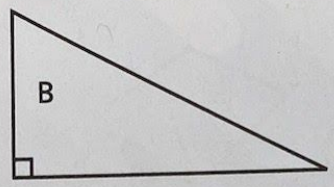
Last Question: On the back of this page draw a triangle that is both *obtuse* and *equilateral*. Write a short explanation how you know it is *obtuse* and *equilateral*.


Why is the obtuse triangle always upset?
Because it is never right.

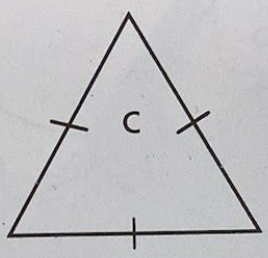
triangle



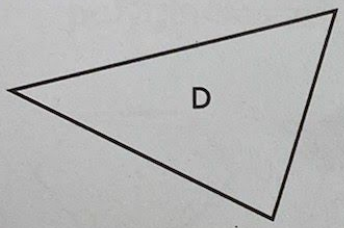
triangle



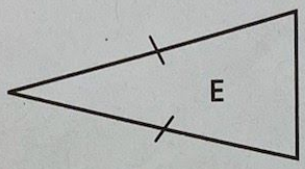
triangle



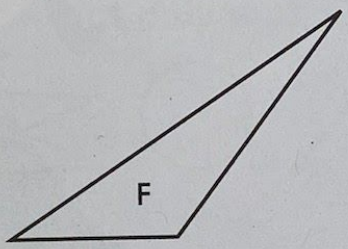
triangle



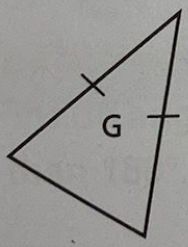
triangle



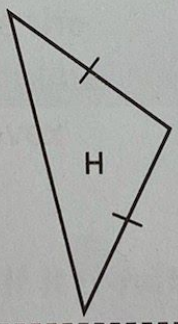
triangle



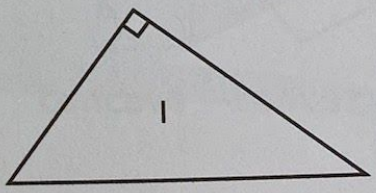
triangle



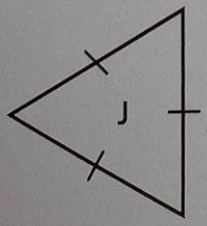
triangle



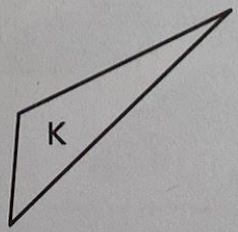
triangle



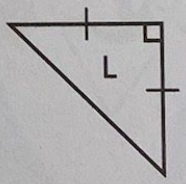
triangle

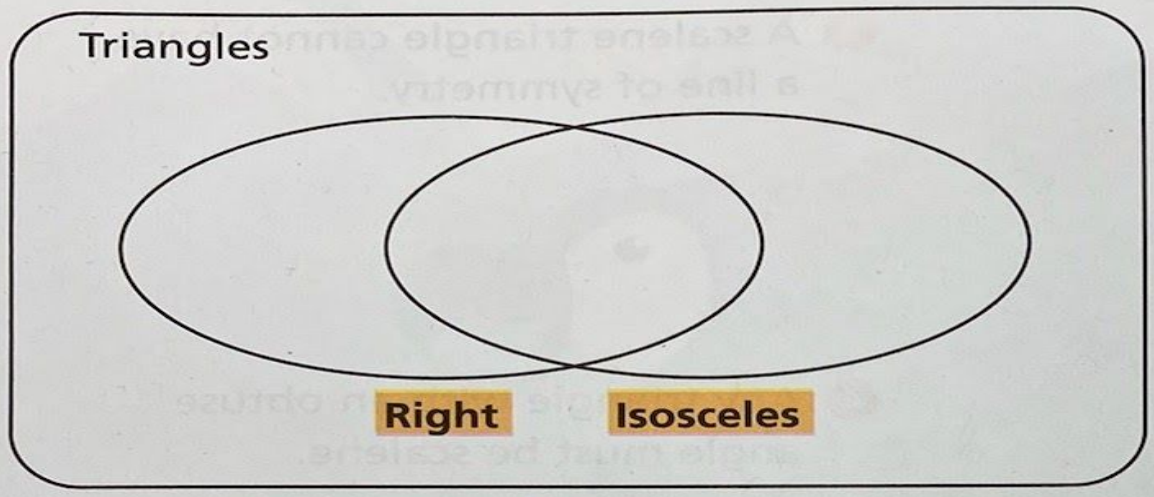


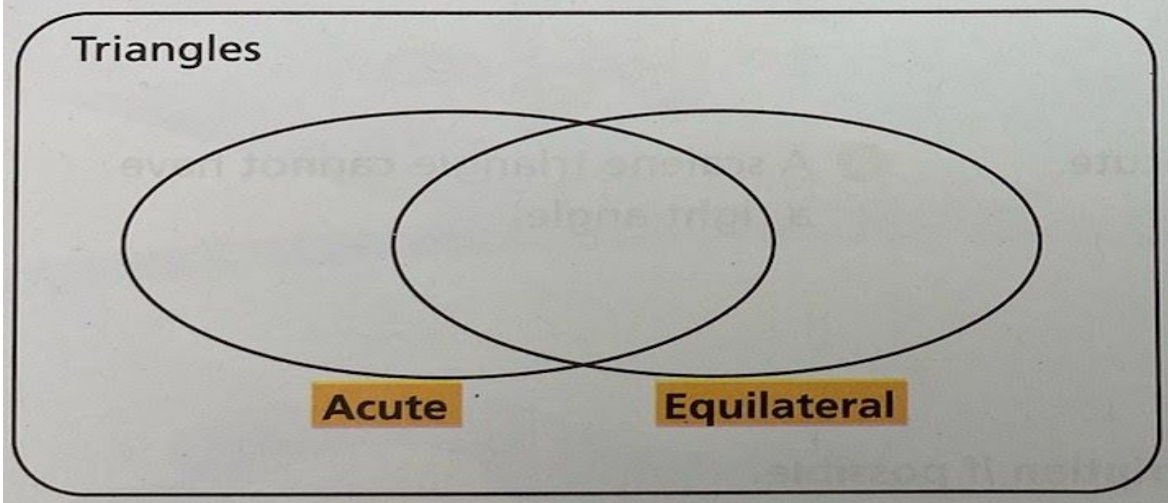
triangle

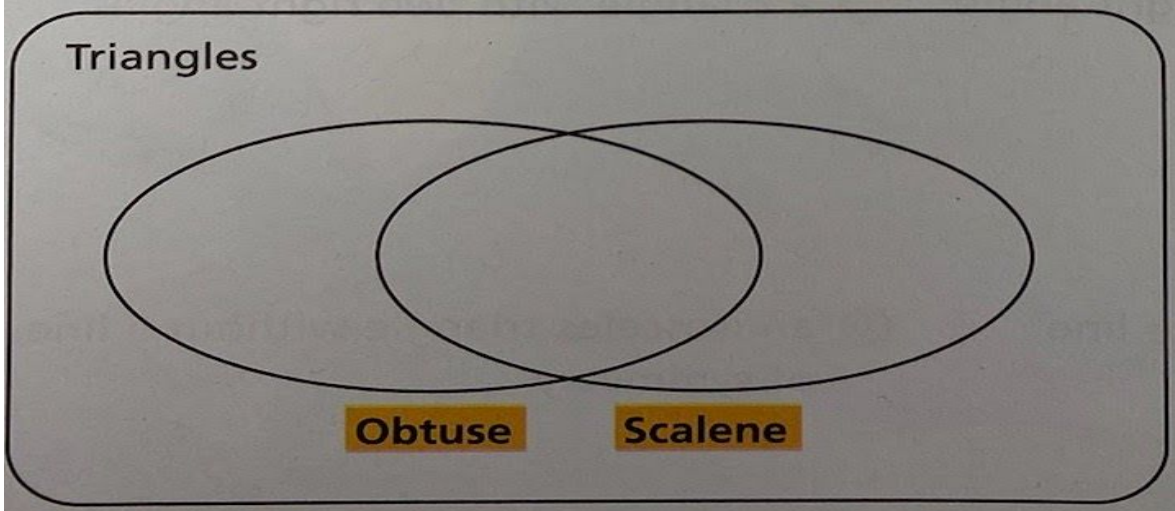


triangle




Triangles
Right
Isosceles


Triangles
Acute
Equilateral


Triangles
Obtuse
Scalene