



3rd  
Basic

4th  
Advanced

# Helping With Math

USA  
GRADES

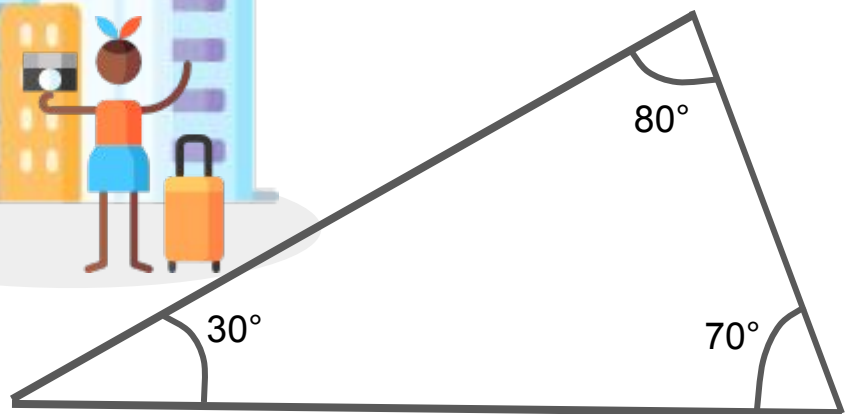
## Acute Triangles

*Suitable for students  
aged 7-9*

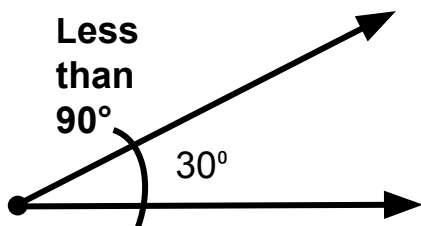


This pack is suitable for learners aged 7-9 years old or 3rd to 4th graders (USA). The content covers fact files and relevant basic and advanced activities involving acute triangles.

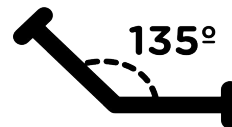
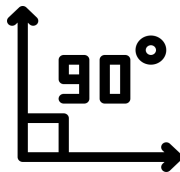
When all three angles of a triangle is acute, this is called an **Acute Triangle**.



An **Acute Angle** are angles that measure **less than  $90^\circ$** .



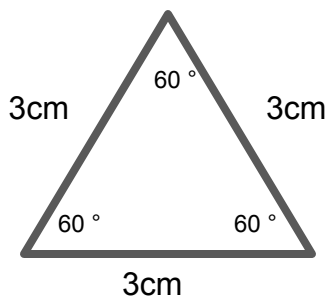
Acute Angle



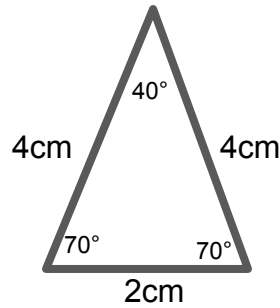
Not an Acute Angle



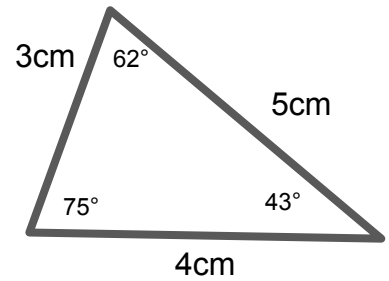
## TYPES OF ACUTE TRIANGLES



Equilateral Acute Triangle



Isosceles Acute Triangle



Scalene Acute Triangle

### REMEMBER!

- ★ **Equilateral Acute Triangle:** all angles measure  $60^\circ$  and all sides have equal measurements
- ★ **Isosceles Acute Triangle:** two angles measure the same and two sides measure the same
- ★ **Scalene Acute Triangle:** all angles have unequal measurements of acute angles and all sides have unequal measurements

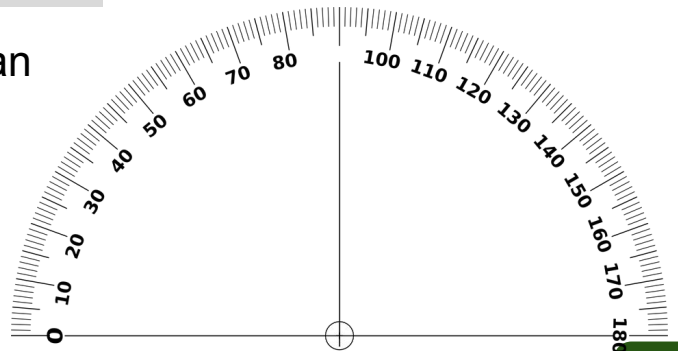
#### Trivia:

When you add all three angles of a triangle, the **sum is always  $180^\circ$** !

## MEASURING ACUTE TRIANGLES

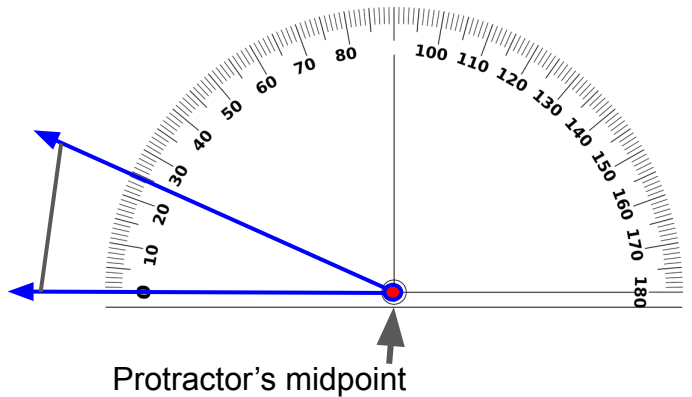
A **protractor** is a tool that we can use to measure angles.

It is usually a flat semicircular form with the angle degrees marked on the curved side.

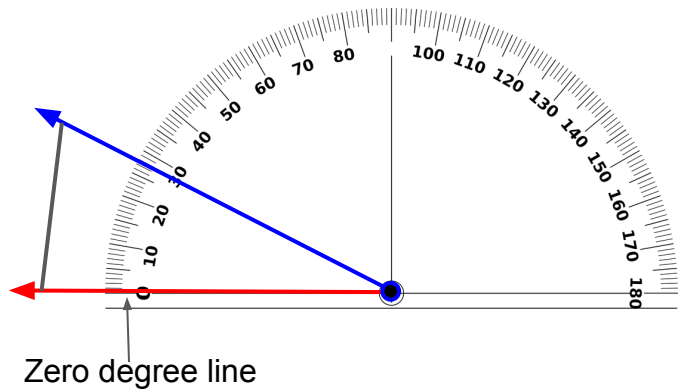


## MEASURING ACUTE TRIANGLES

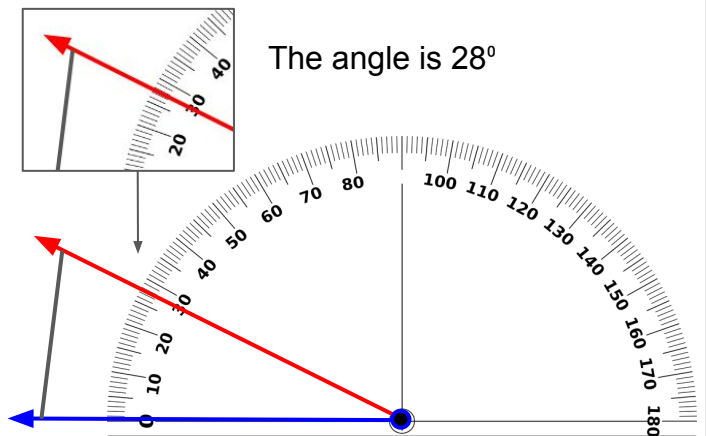
1. Position the protractor so that the vertex of the angle you are measuring is aligned with the protractor's midpoint.



2. Make sure that one side of the angle is lined up with the zero degree line of the protractor



3. Once the angle and protractor are properly positioned, check the other side of the angle that touches the measuring scale and count the degree lines.



Once you have measured all angles and all are less than  $90^\circ$ , then you have confirmed that it is an acute triangle.

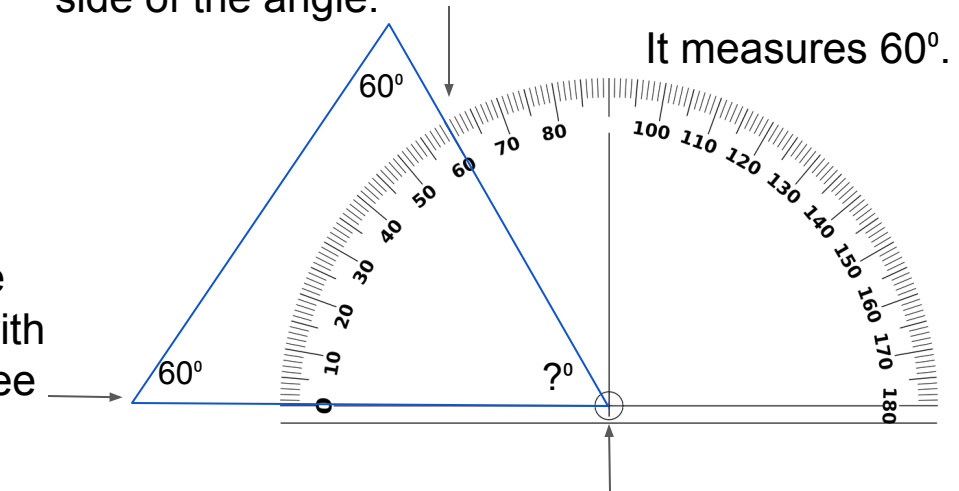


## MEASURING ACUTE TRIANGLES

### Example 1:

- c. Check the degree measurement of the other side of the angle.

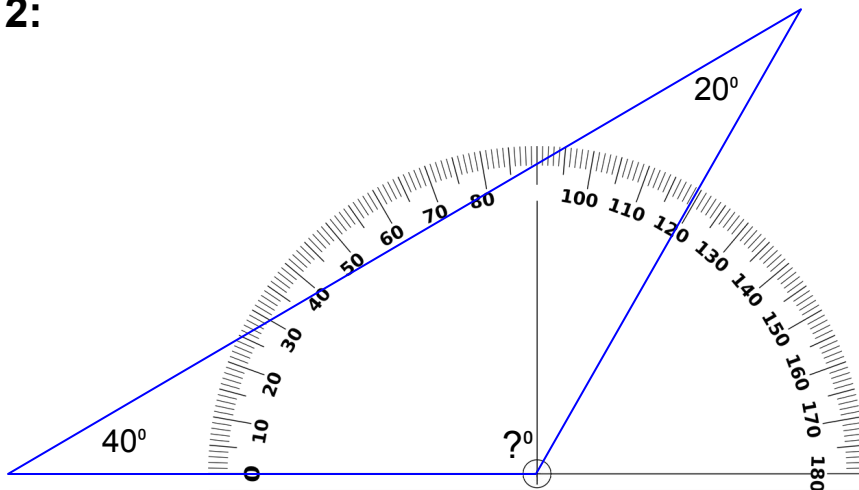
- b. One angle lined up with zero degree line



- a. Angle vertex aligned with protractor's midpoint

This is a triangle with all angles measuring  $60^\circ$ .  
Therefore, this is an equilateral acute triangle.

### Example 2:



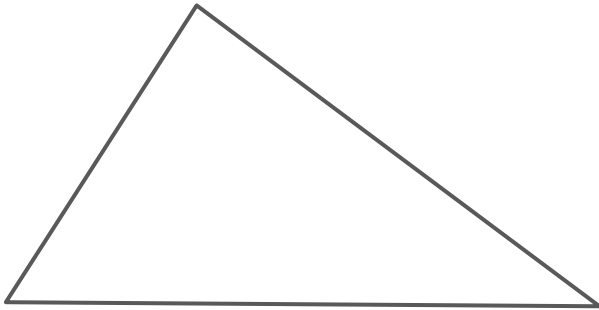
The angle in this triangle measures  $120^\circ$ .  
This is not an acute triangle.



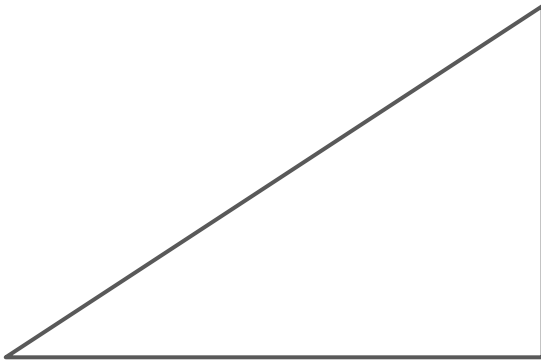
## MEASURING ACUTE TRIANGLES EXERCISES

Try measuring the degrees of these triangles and note down if these are acute triangles or not.

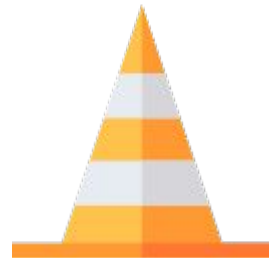
1.



2.



## ACUTE TRIANGLES IN REAL-LIFE



# TABLE OF ACTIVITIES

<b>Ages 7-8</b> (Basic) <span style="float: right;"><u>3rd Grade</u></span>	
1	Welcome to the City
2	Under Construction
3	A Trip to the Park
4	Lost in the City
5	Cafe Break
<b>Ages 8-9</b> (Advanced) <span style="float: right;"><u>4th Grade</u></span>	
6	Skyscraper View
7	A Visit to the Museum
8	Taxi Cab Ride
9	Hotel Check-In
10	Create Your Own City



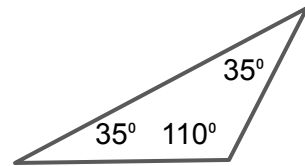
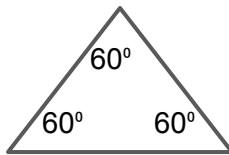
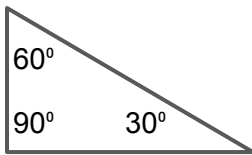
# WELCOME TO THE CITY

G3  
Basic

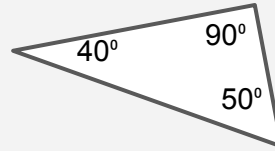
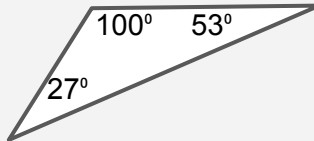
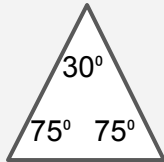
A new bridge is being built in city! As Anna enters the city, she notices that there are a lot of triangle shapes in this bridge. Identify, which triangles are acute. Encircle the acute triangles on each number.



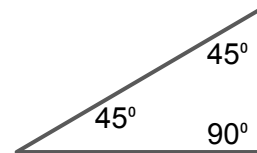
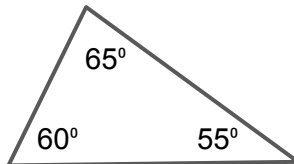
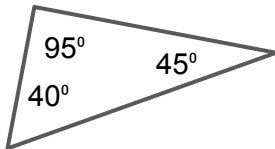
1.



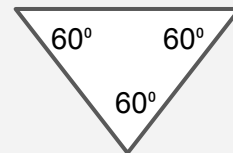
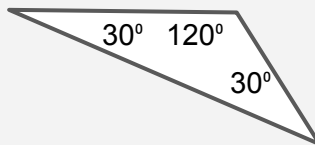
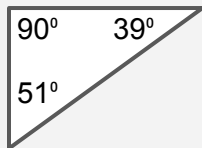
2.



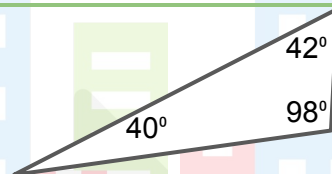
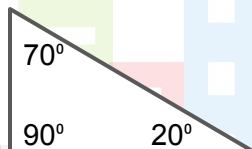
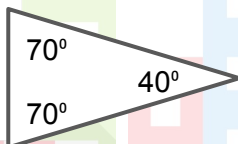
3.



4.



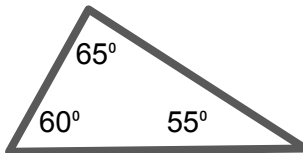
5.



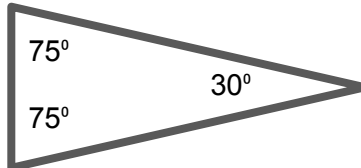
Anna explores and walks around the city. She can see a lot of construction of tall buildings and towers going on. There are a lot of triangle shapes in these structures. Connect each triangle on the left with a line to the matching type of acute triangle to the right. Give a short explanation on the left side on why you chose this answer.

## Explanation:

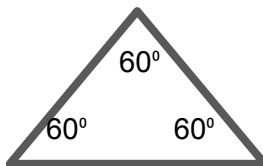
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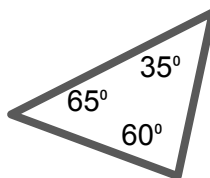
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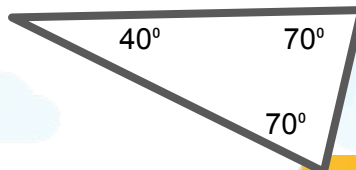
3.



4.



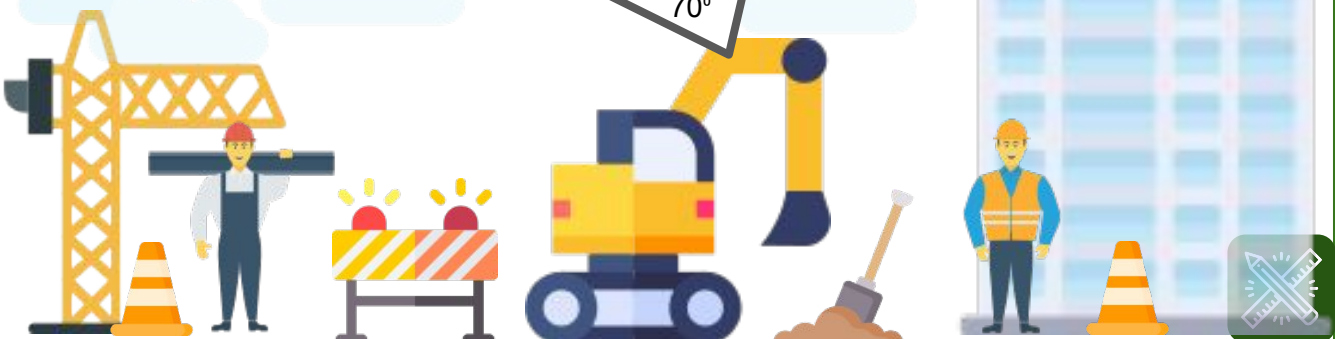
5.



Isosceles  
Acute  
Triangle

Equilateral  
Acute  
Triangle

Scalene  
Acute  
Triangle

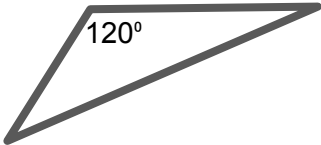
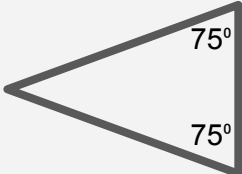
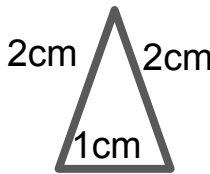
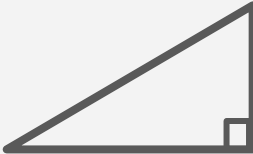
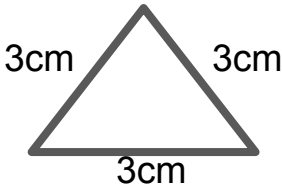




# A TRIP TO THE PARK

G3  
Basic

Anna decided to go to the park to sit and relax. The triangle shapes in the playground caught her eye. Can you help figure out if these are Acute Triangles or not? Check Yes or No on each number.

1.		<input type="checkbox"/> Yes <input type="checkbox"/> No
2.		<input type="checkbox"/> Yes <input type="checkbox"/> No
3.		<input type="checkbox"/> Yes <input type="checkbox"/> No
4.		<input type="checkbox"/> Yes <input type="checkbox"/> No
5.		<input type="checkbox"/> Yes <input type="checkbox"/> No



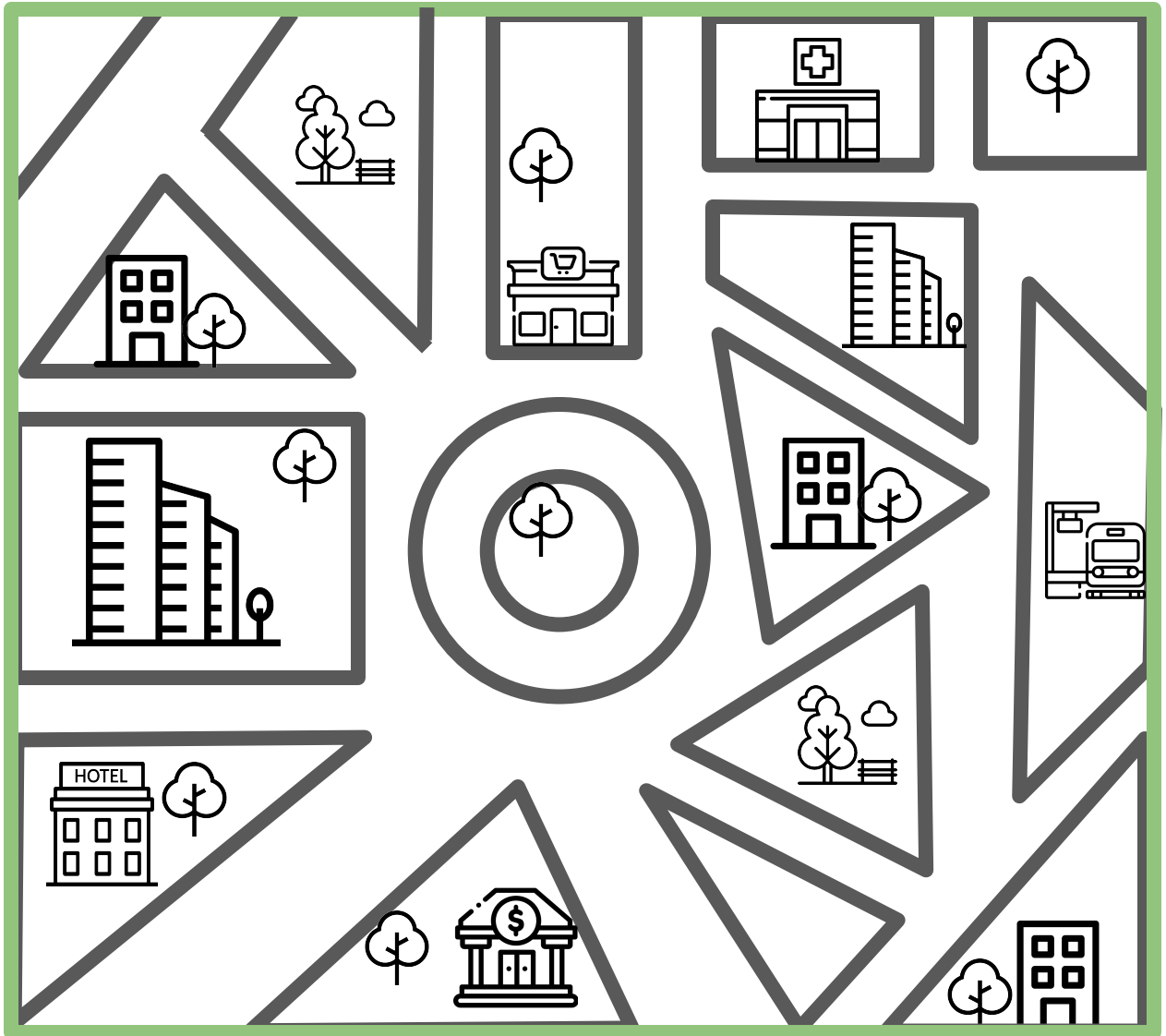
# LOST IN THE CITY

G3

Basic

The city is busy and big. Anna seems to have lost her way. Help her out. Color all acute triangles you find in this map.

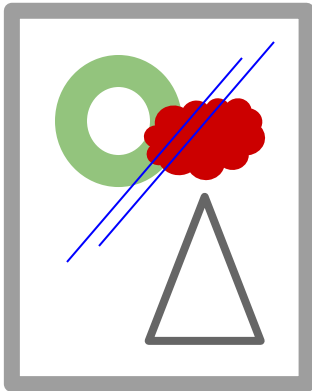
## Map of the City



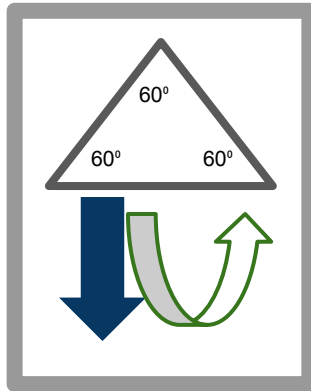
# A VISIT TO THE MUSEUM

G3  
Basic

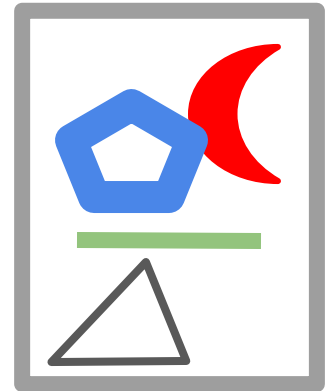
Anna decided to visit the art museum. She saw lots of paintings and sculptures. The abstract painting exhibit with different shapes and colors looks interesting. Write down the type of Acute Triangle you see in each painting. (Equilateral, Isosceles or Scalene)



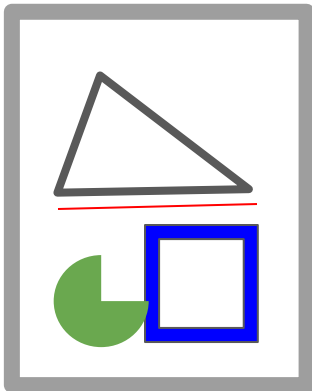
1.



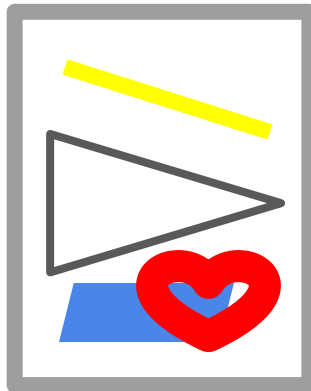
2.



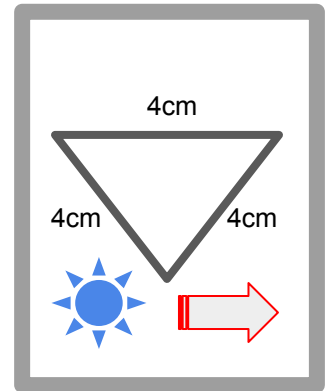
3.



4.



5.



6.

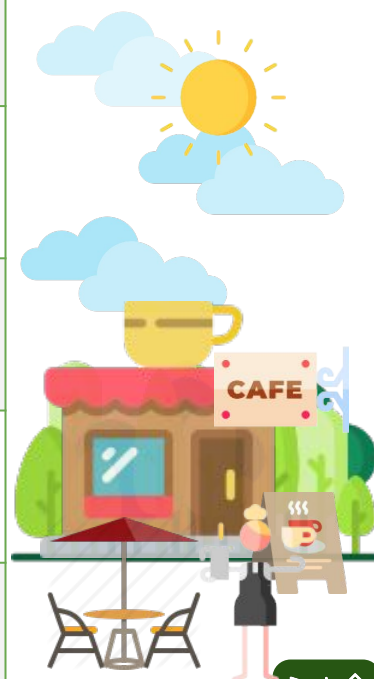


# CAFE BREAK

G3  
Basic

Anna takes a break from touring the city and enters a cafe to rest. While resting, she wonders about the many sights she has seen today. Let us recall those acute triangles we have seen so far. Encircle the letter of the answer under Column A, which shows the correct angle measurements for acute triangles. Under Column B write down the kind of acute triangle.

	Column A	Column B
1.	A. $80^\circ, 70^\circ, 30^\circ$ B. $90^\circ, 45^\circ, 45^\circ$	
2.	A. $111^\circ, 36^\circ, 33^\circ$ B. $40^\circ, 75^\circ, 65^\circ$	
3.	A. $60^\circ, 60^\circ, 60^\circ$ B. $41^\circ, 105^\circ, 34^\circ$	
4.	A. $65^\circ, 80^\circ, 35^\circ$ B. $95^\circ, 40^\circ, 45^\circ$	
5.	A. $40^\circ, 70^\circ, 70^\circ$ B. $100^\circ, 23^\circ, 57^\circ$	
6.	A. $90^\circ, 50^\circ, 40^\circ$ B. $56^\circ, 50^\circ, 74^\circ$	
7.	A. $40^\circ, 80^\circ, 60^\circ$ B. $120^\circ, 30^\circ, 30^\circ$	
8.	A. $110^\circ, 35^\circ, 35^\circ$ B. $60^\circ, 65^\circ, 55^\circ$	



# SKYSCRAPER VIEW

G4  
Advanced

Anna visits the very top floor of the tallest building in the city. She looks out and sees a wonderful view. There are acute triangles all around. Check True or False to answer each statement below.

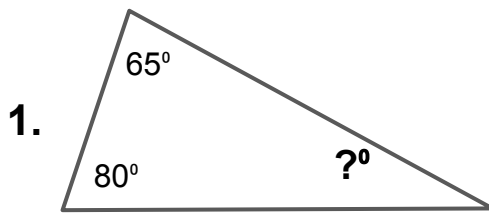
1	Any triangle with an acute angle is an acute triangle.	<input type="checkbox"/> True <input type="checkbox"/> False
2	An isosceles acute triangle has all angles measuring $60^\circ$ .	<input type="checkbox"/> True <input type="checkbox"/> False
3	An acute triangle has all acute angles.	<input type="checkbox"/> True <input type="checkbox"/> False
4	A $90^\circ$ angle is not possible in an acute triangle.	<input type="checkbox"/> True <input type="checkbox"/> False
5	A scalene acute triangle has all unequal measurements of acute angles and sides.	<input type="checkbox"/> True <input type="checkbox"/> False
6	$70^\circ$ is the angle measurement for an equilateral acute triangle.	<input type="checkbox"/> True <input type="checkbox"/> False
7	An acute triangle has all angles with less than $90^\circ$ .	<input type="checkbox"/> True <input type="checkbox"/> False
8	An acute triangle with two acute angles and sides with the same measurement is an isosceles acute triangle.	<input type="checkbox"/> True <input type="checkbox"/> False



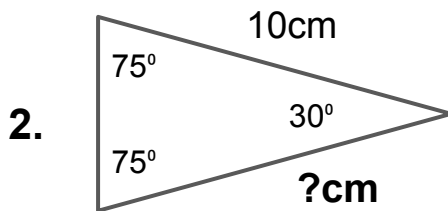
# TAXI CAB RIDE

G4  
Advanced

Anna is getting tired. She rides a taxi cab going to the hotel. She has to pay her taxi fare. There are missing values for each number. Place the correct answer to their corresponding boxes and calculate the final amount.

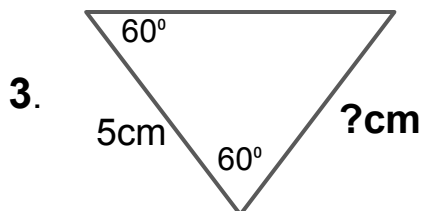


1.



2.

—

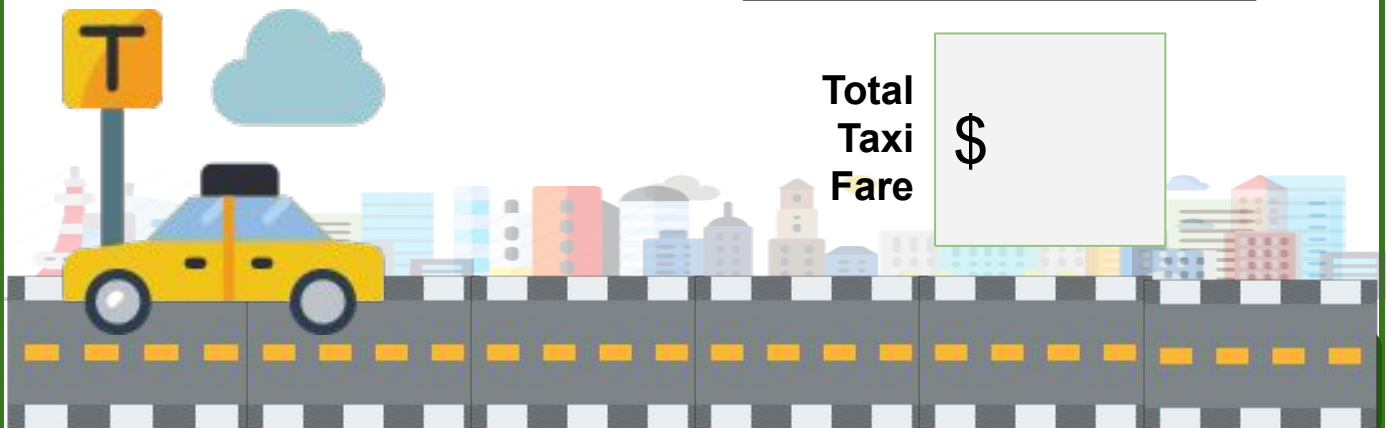


3.

+

Total  
Taxi  
Fare

\$





# CREATE YOUR OWN CITY

G4  
Advanced

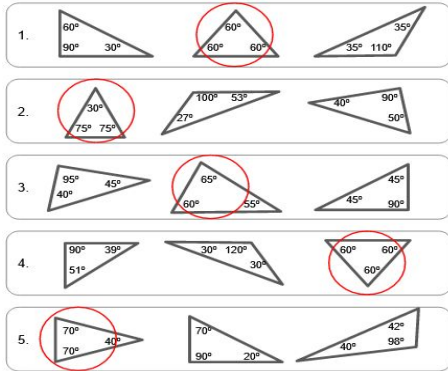
Draw a view of the city and try to make use of all the acute angles we have learned as much as you can.





# ANSWER GUIDE

## Activity 1



## Activity 3

- |        |        |
|--------|--------|
| 1. No  | 4. No  |
| 2. Yes | 5. Yes |
| 3. Yes |        |

## Activity 5

1. Isosceles
2. Equilateral
3. Scalene
4. Scalene
5. Isosceles
6. Equilateral

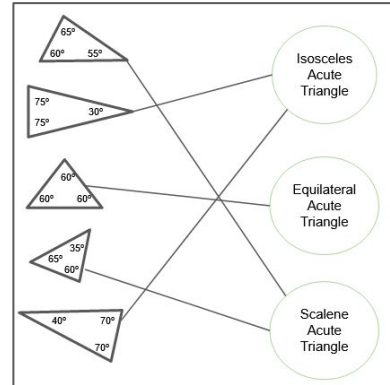
## Activity 7

- |          |          |
|----------|----------|
| 1. False | 5. True  |
| 2. False | 6. False |
| 3. True  | 7. True  |
| 4. True  | 8. True  |

## Activity 9

1. B, 2. A

## Activity 2



## Activity 4



## Activity 6

- |      |      |
|------|------|
| 1. A | 5. A |
| 2. B | 6. B |
| 3. A | 7. A |
| 4. A | 8. B |

## Activity 8

1. 35, 2. 10, 3. 5  
Total: 20 USD

## Activity 10

Answers may vary.



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