Eureka Math

4th Grade
Module 4
Lesson 14

At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

This work by Bethel School District (www.bethelsd.org) is licensed under the Creative Commons Attribution Non-Commercial Share-Alike 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/. Bethel School District Based this work on Eureka Math by Common Core (http://greatminds.net/maps/math/copyright) Eureka Math is licensed under a Creative Commons Attribution Non-Commercial-ShareAlike 4.0 License.

Icons

Read, Draw, Write

Learning Target

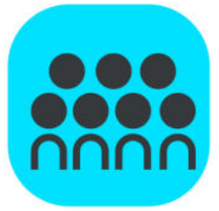
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

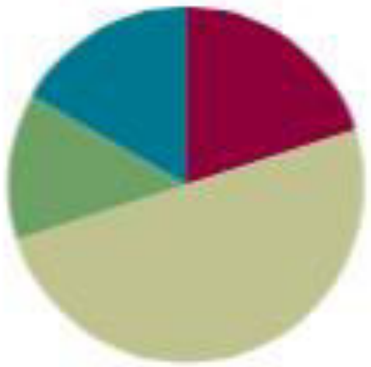
Small Group Time

Lesson 14

Objective: Define and construct triangles from given criteria. Explore symmetry in triangles.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(8 minutes)
Concept Development	(30 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



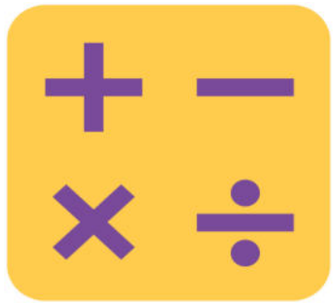
Define and construct triangles from given criteria.

Explore symmetry in triangles.

Divide 3 different way

148/3=_____

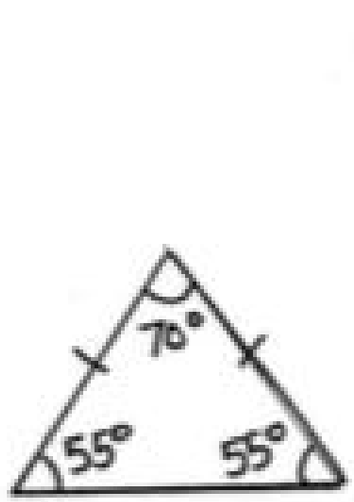
1,008/4=_____

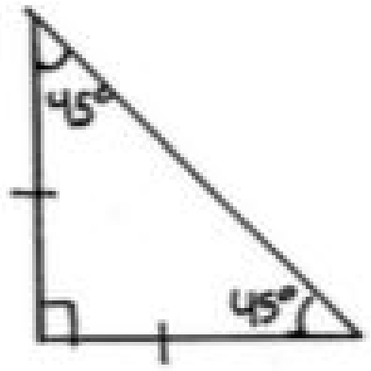


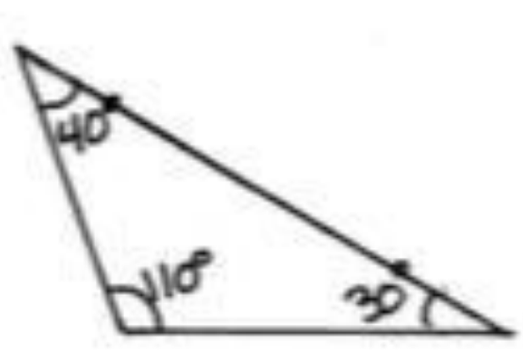
Physiometry

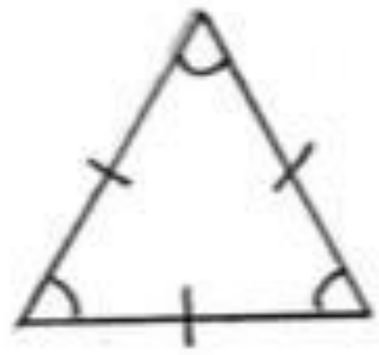
Fall directions on page 4.D.34

Classify the Triangle

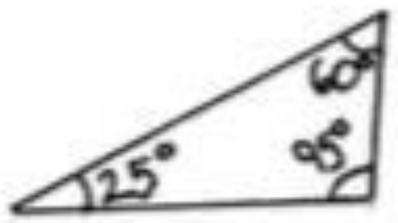


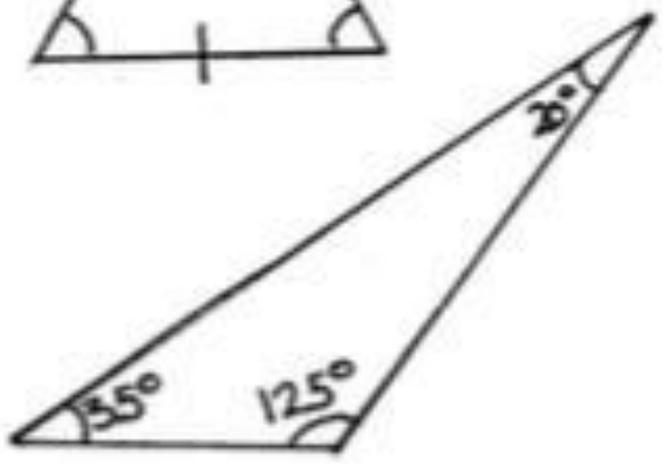






5?





Application Problem

Draw three points on your grid paper so that, when connected, they form a triangle. Use your straightedge to connect the three points to form a triangle. Switch papers with your partner. Determine how the triangle your partner constructed can be classified: right, acute obtuse, equilateral, isosceles, or scalene.

Construct an obtuse isosceles triangle

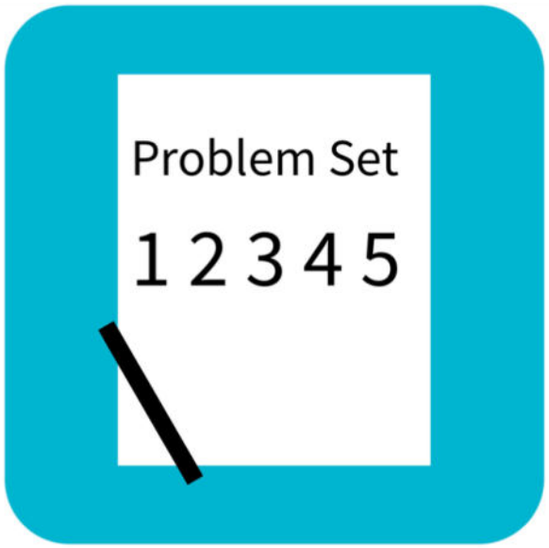
- We are going to construct an obtuse isosceles triangle. What tools do you think we will need?
- Before we can construct our triangle we need remember what obtuse and isosceles mean. Tell your partner what an obtuse isosceles triangle NEEDS to have.
- Model how to construct an obtuse isosceles triangle.
- Now explain to your partner how to construct an obtuse isosceles triangle.
- Now construct one yourself.

Construct a right scalene triangle

- We are going to construct a right scalene triangle.
- Before we can construct our triangle we need remember what right and scalene mean. Tell your partner what a right scalene triangle NEEDS to have.
- Model how to construct a right scalene triangle.
- Now explain to your partner how to construct a right scalene triangle.
- Now construct one yourself.

Explore classifications of triangles

- Look back at the triangle you drew for the application problem. Tell your partner which one you drew. Raise your hand if you drew scalene triangle.
- Raise your hand if you drew an equilateral triangle.
- Raise your hand if you drew a scalene equilateral triangle.
- Can we draw a scalene equilateral triangle? Why or why not?
- Can an equilateral triangle be obtuse? What about a right? Why or why not?



Problem Set

Name _____ Date _____

1. Draw triangles that fit the following classifications. Use a ruler and protractor. Label the side lengths and angles.

   a. Right and isosceles

   b. Obtuse and scalene

Debrief

- In Problem 4, explain why you answered true o false.
- Discuss your answer to Problem 6. How are these two triangles closely related?
- In Problem 1, which of the triangles was most challenging to draw? Why?
- When you were drawing a triangle that had two attributes, how did you determine what to draw first—the side length or the angle measure?
- From Problem 2, can you determine which type of triangles never have lines of symmetry?
- If a triangle has one line of symmetry, what kind of triangle does it have to be? If a triangle has three lines of symmetry, what kind of triangle does it have to be?
- Why is it important to verify our triangles' attributes after we have constructed them?

Exit Ticket

Name _____ Date _____

1. Draw an obtuse isosceles triangle, and then draw any lines of symmetry if they exist.

2. Draw a right scalene triangle, and then draw any lines of symmetry if they exist.