

STUDENT MATERIALS
ROUND 1 – PLAY IT

Read each description. If it is “fake” and you cannot make the triangle, X that box. If it makes a real triangle, use your tools to construct it. Construct a second unique triangle if possible.

1. Triangle with two or more obtuse angles.

FAKE! Check this box if this describes an impossible triangle. Write how you know in the space below.

because when you try to draw
to obtuse angles it will always be an acute
and one with 0

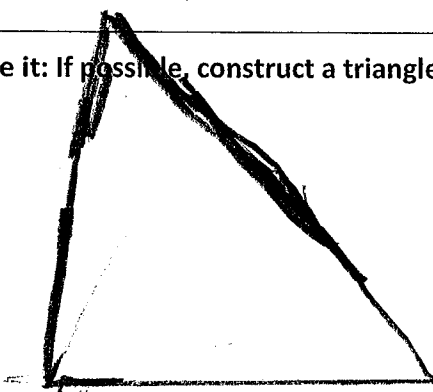
Make it: If possible, construct a triangle.

If possible, construct another unique triangle.



2. Triangle with a side length of 5 centimeters that connects angles of 60° and 80° .

FAKE! Check this box if this describes an impossible triangle. Write how you know in the space below.

<p>Make it: If possible, construct a triangle.</p> 	<p>If possible, construct another unique triangle.</p>
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3. A triangle with an angle of 50° and side lengths of 4 cm and 4 cm.

FAKE! Check this box if this describes an impossible triangle. Write how you know in the space below. *this is fake because when we draw 2 side lengths of 4cm the only way we can connect this is with an 90 degree angle*

<p>Make it: If possible, construct a triangle.</p>	<p>If possible, construct another unique triangle.</p>
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ROUND 2 – COMPLETE IT

Part of a description for a triangle is given and the type of triangle that it should describe. Complete the missing fact to complete each game show question.

4. This triangle is FAKE. Complete the fact to make a triangle that cannot be constructed.

FACT 1: The two longest sides of the triangle are 5 inches and 8 inches.

FACT 2: The shortest side is 7 inches. (Must be a number between 0 and 5.)

5. This triangle is REAL. Complete the fact to make a triangle that could be constructed.

FACT 1: The two shortest sides of the triangle are 5 inches and 8 inches.

FACT 2: The longest side is 3 inches. (Must be a number greater than 8.)

6. This triangle is FAKE. Complete the fact to make a triangle that cannot be constructed.

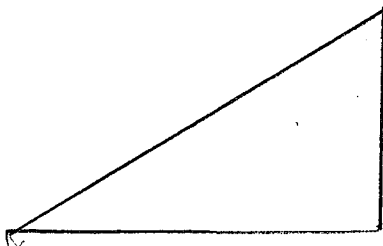
The angles of the triangle are 0°, 90° and 360° degrees.

7. This triangle is REAL and would make one unique triangle. Create three of your own facts:

FACT 1: the longest side is 6 cm

FACT 2: the shortest side is 3 cm

FACT 3: this is a right triangle



ROUND 3 – REFLECTION

Write your responses to each of the following reflection questions:

1. What strategies did you use to decide whether the triangle could be made or whether it was a fake?

Using the angle ruler and trying
to draw the triangle

2. Which types of clues are easiest to use when constructing triangles (given all 3 sides, all 3 angles or a combination of sides and angles)? Why do you think this is?

Give all 3 sides because
if you have an angle you can just
draw it out using the ruler