Inquiry Question
How to apply Pythagorean Theorem in Ktunaxa Fish Traps?

Name: _____ **Date:** _____

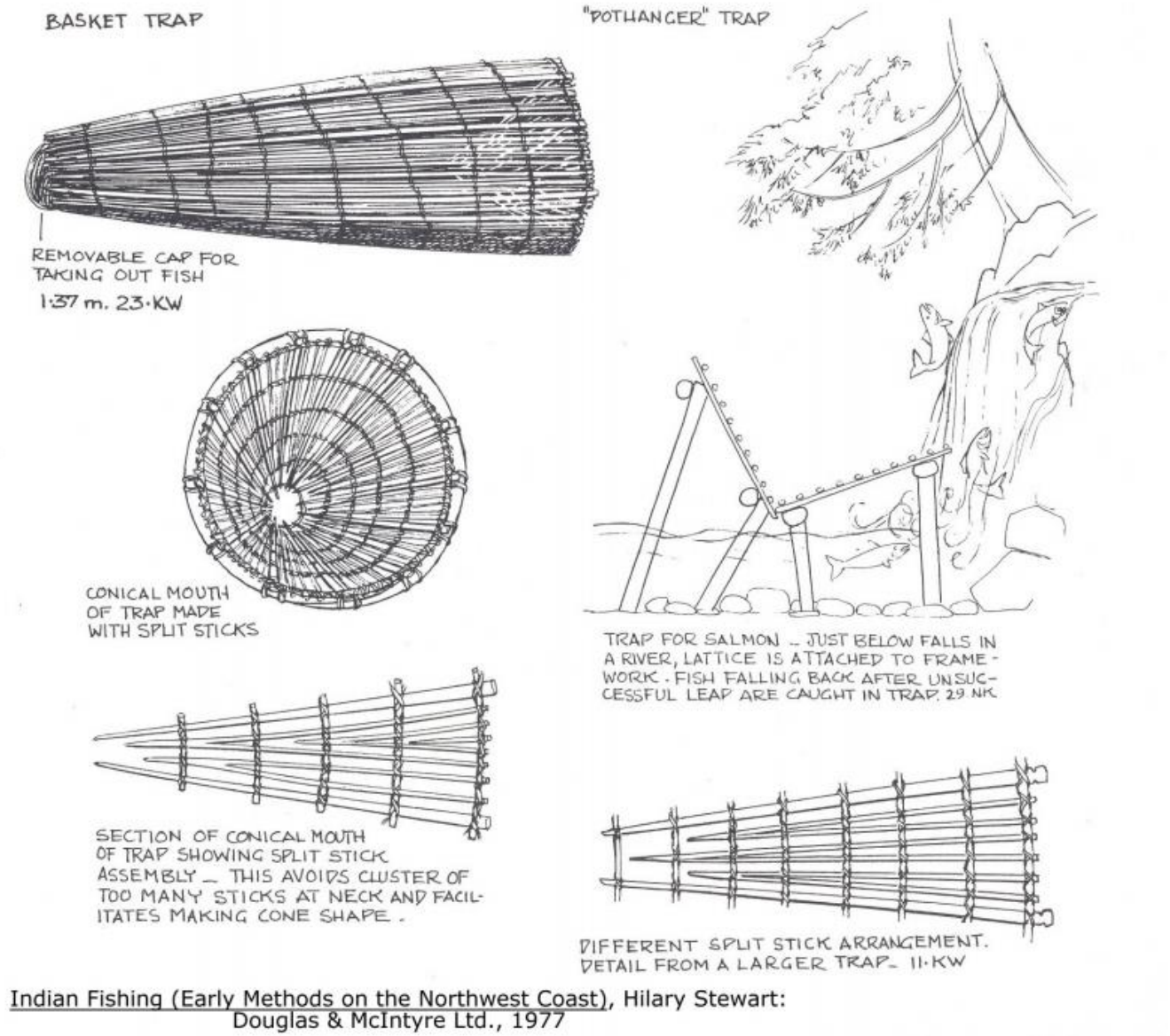
The Ktunaxa peoples (also known as Kutenai or Kootenay), whose traditional language is an isolate, are based along the western edge of the Rocky Mountains in the Kootenay River basin. This region is now known generally as “Kootenay” or “the Kootenays.” The Ktunaxa are experts at fishing in streams, rivers and lakes. For hundreds of years they have used willow branches to build traps for catching fish.

In this unit, you learned that the Pythagorean relationship of the sides in a right triangle states that $a^2 + b^2 = c^2$. A right triangle has a 90 degree angle called a right angle. The side opposite the right angle is called the hypotenuse. The sides of a right triangle are often labelled a, b, and c, with c being the hypotenuse.

Image credits: https://firstpeoplesofcanada.com/fp_groups/fp_plateau3.html

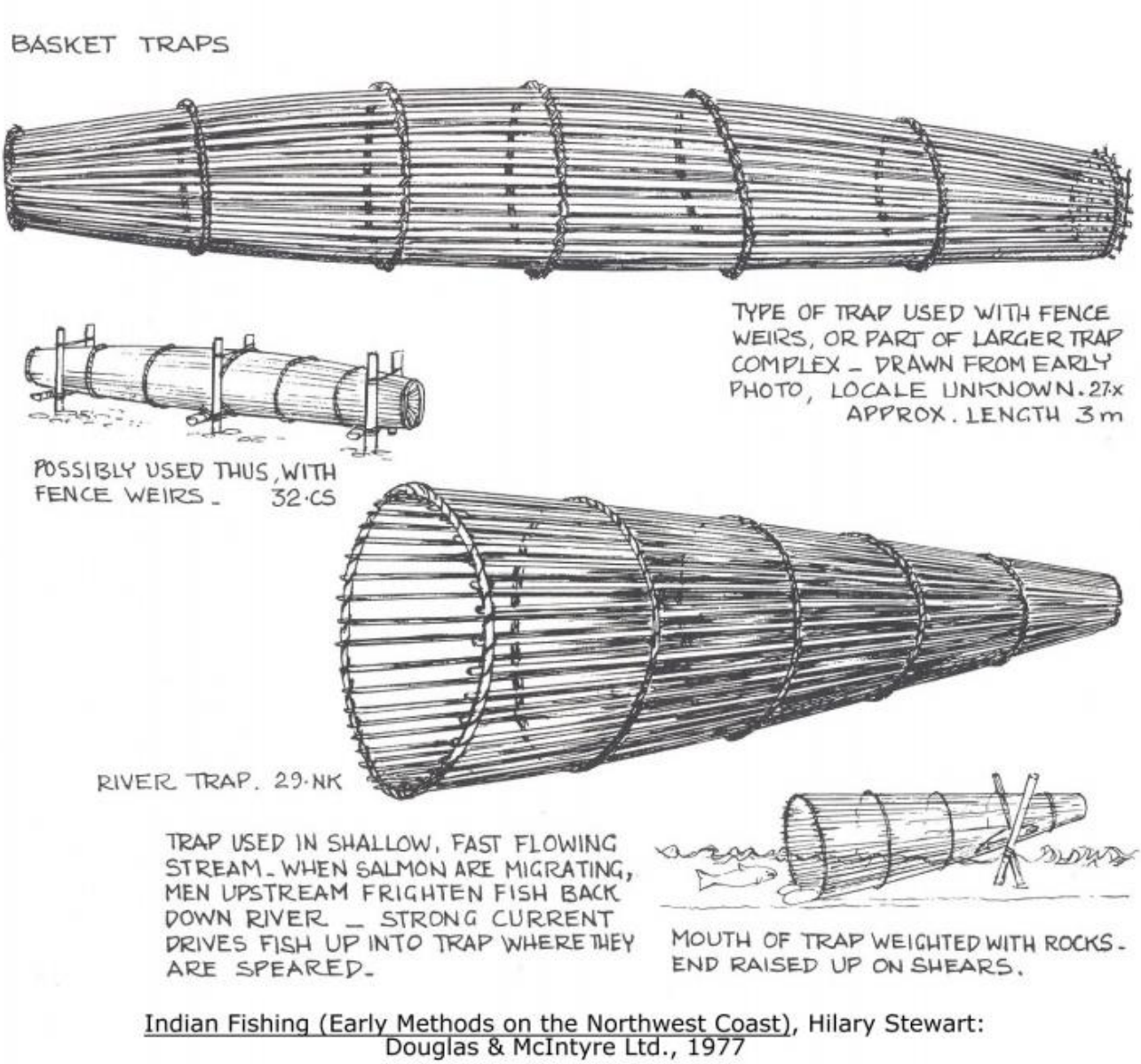
General Instructions

1. Consider the following Pacific Northwest Basket Traps.



Indian Fishing (Early Methods on the Northwest Coast), Hilary Stewart: Douglas & McIntyre Ltd., 1977

Adapted from: http://sd79.bc.ca/programs/abed



Indian Fishing (Early Methods on the Northwest Coast), Hilary Stewart: Douglas & McIntyre Ltd., 1977

2. Watch Ktunaxa Video:
   http://acip.sd79.bc.ca/video/quicktime/math/ktunaxa_fish_trap.mp4

3. Draw to show how the Ktunaxa Fish Traps relate to the Pythagorean theorem
   a. Label every side of the right triangle
   b. Show proof that $a^2 + b^2 = c^2$ → rearranged as → $c = \sqrt{b^2 + a^2}$

4. How is the cosine law related to the Pythagorean Theorem?

Project submission

- A picture of your drawing
- A copy of your data sheet with calculations