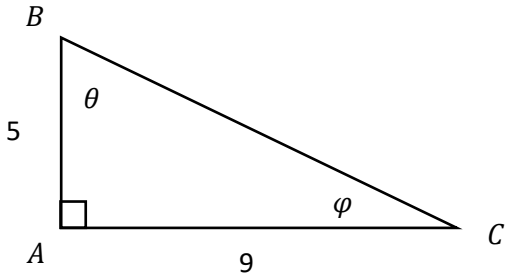
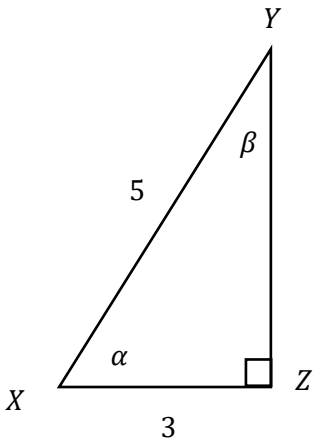
Lesson 3 – Solving Triangles

Goal: • Given a right-angle triangle with 2 known measurements, you can determine the missing lengths and angles. (Can be applied to contextualized problems) • Understands that connected triangles can be solved in unison.
New Terminology: • "Solve the triangle"

Review: Determine the missing angles of the triangles. Use inverse sine, cosine, and tangent all at least once.

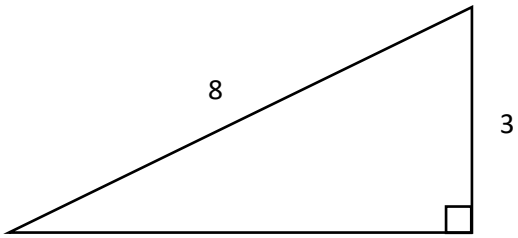




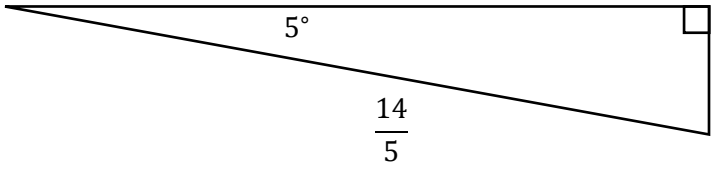
Review: What does $\arcsin(0.35)$ and $\tan^{-1}(1.2)$ represent?

Recall, we can find all the information for a triangle if we know 2 sides OR 1 side and 1 angle.

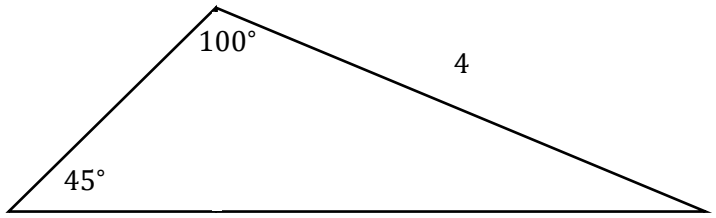
Example: Solve the following triangle:



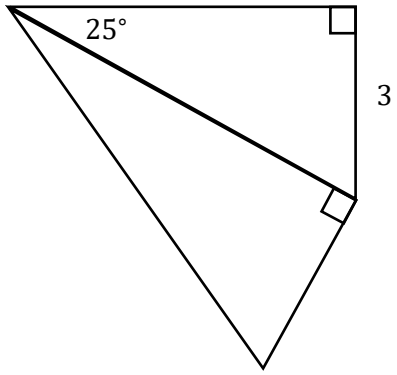
Practice: Solve the following triangle:



Example: Find the perimeter of the following triangle:



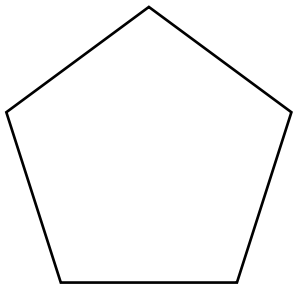
Practice: Determine the perimeter of the following shape:



Discuss: A telephone pole is supported by two guide wires anchored at the ground 4 m away from the base of the pole. One of the wires connects from the top and makes an angle of elevation of 84°, the other connects somewhere in the middle of the pole and makes an angle of elevation of 63°. How far apart are the two wires on the telephone pole?

Discuss: Determine the angle formed when you connect the points $(5,5)$, $(2,1)$, and $(7,-1)$ together in order.

Discuss: Determine the area of a regular pentagon with side length 8 cm.



Assigned Problems: 3.3 page 131 – 135 # 1-3, 5, 7, 9, 11-14

 15, 16

Multi-Step Trig Problems Worksheet

Multi-Step Angle Worksheet

Key Ideas on page 131