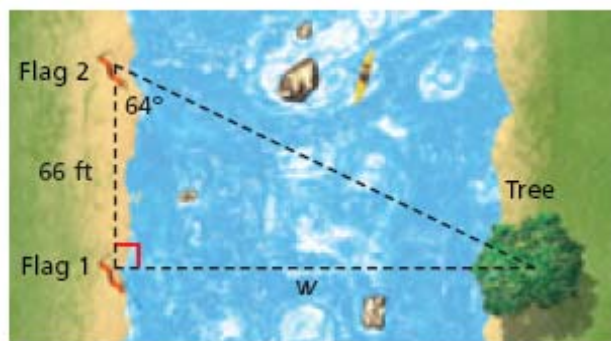


HOMEWORK DAY 3: WORKSHEET C

Answer the following questions.

1. A supply package will be dropped from an airplane to an Arctic research station. The plane's altitude is 2000 ft, and its horizontal speed is 235 ft / s. The angle of depression to the target is 14° .
 - a.) To the nearest foot, what is the plane's horizontal distance from the target?
 - b.) The plane needs to drop the supplies when it is a horizontal distance of 500 ft from the target. To the nearest second, how long should the pilot wait before dropping the supplies?
2. A conveyor belt leads from the ground to a barn door 24 feet high. The angle between the belt and the ground is 32° . What is the length of the conveyor belt to the nearest foot?
3. Based on the measurements shown in the diagram, what is the width w of the river to the nearest foot?



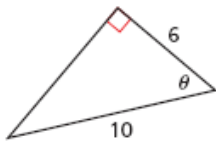
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4. The pilot of a helicopter measures the angle of depression to a landing spot to be 18.8° . If the pilot's altitude is 1640 meters, what is the horizontal distance to the landing spot to the nearest meter?

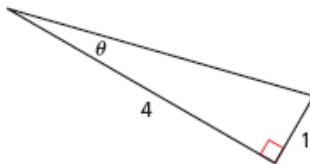
5. A kite string is 102 feet long. The angle between the kite string and the ground is 54.9° . How high is the kite?

Find the values of the six trigonometric functions for θ .

21.



22.



23.

