Name:_____ Date:_____ Band:___

Special Right Triangle Real Life Scenarios

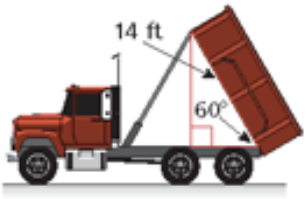
Instructions: Use what you know about right triangles to help you solve each problem. Remember there are multiple ways to work through each scenario. Good luck, try your best, and enjoy the randomness of some of these problems. Sorry for the space issue, you may want to use a sheet of loose leaf for your work.

1. The road sign is shaped like an equilateral triangle. Estimate the area of the sign by finding the area of the equilateral triangle.

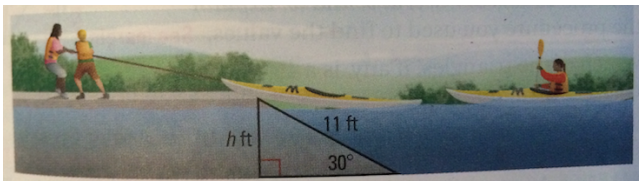
2. A tipping platform is a ramp used to unload trucks. How high is the end of an 80-foot ramp when the tipping angle is 30°? 45°?

3. The logo on a recycling bin resembles an equilateral triangle with side lengths of 6 centimeters. Approximate the area of the logo.

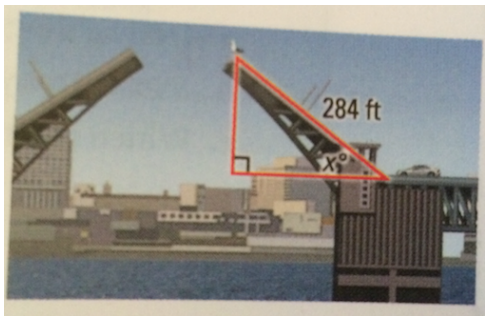
4. The body of a dump truck is raised to empty a load of sand. How high is the 14-foot-long body from the frame when it is tipped upward by a 60° angle?



5. A ramp is used to launch a kayak. What is the height of an 11ft. ramp when the angle is 30* as shown?

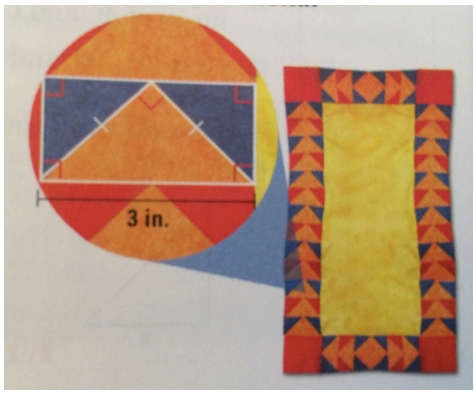


6. Each half of a drawbridge is about 284ft. long as shown. How high does a seagull who is on the end of the drawbridge when the angle with measure x* is 30*? 45*? 60*?



7. You are creating a quilt that will have a traditional "flying geese" border, as shown below.

a. Find all the angle measures of the small blue triangles and the large orange triangles.

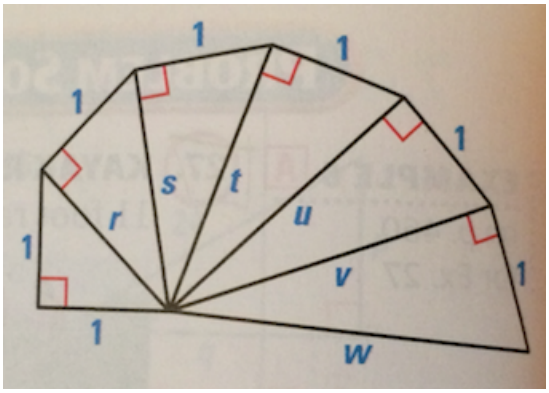


b. The width of the border is to be 3 inches. To create the large triangle, you cut a square of fabric in half. Not counting any extra fabric needed for seams, what size square do you need?

c. What size square do you need to create each small triangle?

8. Use the figure at the right. You can use the face that the converses of the 45*-45*-90* Triangle Theorem and the 30*-60*-90* Triangle Theorem are true.

a. Find the values of r, s, t, u, v, and w. Explain the procedure you used to find the values.



b. Which of the triangles, if any, is a 45*-45*-90* triangle? Explain.

c. Which of the triangles, if any, is a 30*-60*-90* triangle? Explain.