# Sixth Grade Math Assignment

This assignment is **weakly aligned** to the standards.

Area of Square and Rectangles

A 2x3 rectangle is shown

How many square units are there in a rectangle above? Student wrote: 6 unit

A 14 x 22 rectangle is shown

How many square units is the rectangle above? Student wrote: 308 units
What is the most efficient way to determine the number of square units in the rectangle above! Why does that way work? Student wrote: Multiply length and width. You are counting. Area: 22x14 Ex 1) Tyson owns a business that creates rugs. He is working on making a rectangular rug that is seven feet long and three feet wide. What is area of the rug?
A=l x w; A= 3 x 7 Answer= 21

Why do we use square units instead of another type of unit (such as circular units)? Because 1x1 is 1 and all sides are equal.

Ex 2) Tyson dedicated to make a square rug with a side length of 8 feet.
a. How much space is being covered by the rug?
A=LW; A=8 x 3= 24

b. If the rug is composed of pieces of fabrics that are 2 feet by 2 feet, how many pieces of fabrics you need? 2 x 2=4f; answer=6

Ex 3) Tyson was asked to make a rug that will cover a rectangular floor that has a width of 18 feet and a length of 25 feet. How many square feet of carpeting will he need to cover the entire floor?
A=LW; A=25x18= 450 square feet

Overview

Sixth-grade students answer several questions about calculating area. This assignment is weak because it is more closely aligned with a fourth-grade standard on calculating the area of rectangles than with the sixth-grade standard on finding the area of more advanced shapes.

Related Standards

We looked at how well the assignment aligned to the following standard:

KY.6.G.1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

Why is this assignment weakly aligned?

The sixth-grade standard KY.6.G.1 requires students to find the area of a variety of shapes, such as triangles, “special” quadrilaterals (like parallelograms), and other polygons (like pentagons). The only shapes in this assignment are rectangles, making this assignment more closely aligned with fourth-grade standard KY.4.MD.3. 

There was also a missed opportunity to incorporate multiplication appropriate for sixth grade. The multiplication students perform in this assignment (e.g., 3 x 7 and 14 x 22) is below grade level; students should have been asked to work with non-whole numbers.

The assignment doesn’t focus on conceptual understanding, which is an essential aspect of standard KY.6.G.1. The standard calls for students to find the area of a shape “by composing [it] into rectangles or decomposing [it] into triangles and other shapes.” Composing and decomposing shapes builds students’ foundational understanding of the area formula for various shapes. For example, seeing that a parallelogram can be composed of two triangles helps students understand that area is additive and provides an explanation for why the formula for area of a triangle is (½ x base x height). In this assignment, students are only asked to calculate area using the (base x height) formula, which reinforces procedural skill, not conceptual understanding.