

PRE TEST

Building a Fish Rack: Investigation into Proof, Properties, Perimeter and Area

Math in a Cultural Context*

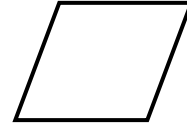
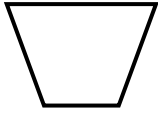
UNIVERSITY OF ALASKA FAIRBANKS

Student Name:
Grade:
Teacher:
School:
Location of School:
Date:

*This project has been funded by the U.S. Department of Education, *Returning the Gift: Systemic Implementation of an Effective Culturally Based Math Curriculum and Professional Development Program*, Jerry Lipka, P.I.

Total Score:

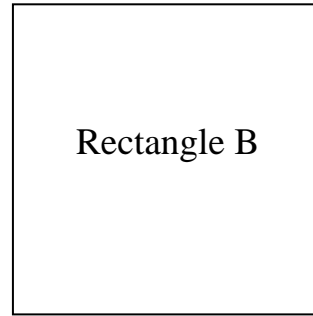
1. Circle the square.



2. Circle the one true statement about the properties of a rectangle.
- a. There are only three angles
 - b. Opposite sides intersect
 - c. Opposite sides are parallel
 - d. The diagonals are different lengths
3. Rectangle says to Parallelogram, “I am parallelogram too!” How can this be true? Please explain your answer in detail. You may draw pictures to help explain.

4. You want to measure how much space something covers. What would you be measuring?
- a. area
 - b. perimeter
 - c. length
 - d. strength
- 5.a. Draw a rectangle that has a perimeter of 16 feet. Label the length and width with numbers.
- 5.b. Now draw a different rectangle with a perimeter of 16 feet. Label the length and width with numbers.

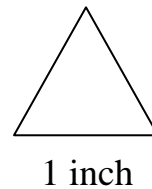
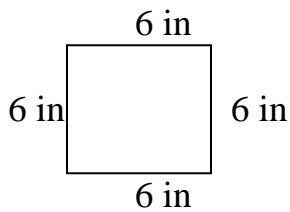
6. Rectangles A and B both have a perimeter of 20 cm.



a. Are the areas of these two rectangles the same or different? _____

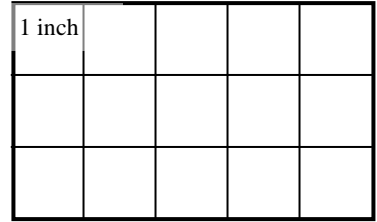
b. How would you explain your answer to your math class?

7. The perimeter of a square is 24 inches. The equilateral triangle (a triangle with 3 equal sides) below has the same perimeter as the square. What is the length of one side of this equilateral triangle? Circle the correct answer.



- a. 6 inches
- b. 7 inches
- c. 8 inches
- d. 9 inches

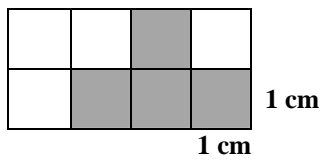
8.a. What is the total distance around the outside of the large rectangle to the right? Be sure to include the correct units.



8b. What is the total space inside the large rectangle to the right? Be sure to include the correct units.

9. What is the perimeter of the shaded region shown below? _____

Each side of a square is 1 cm.



10.a. Draw a rectangle that has an area of 36 square inches. Label the length and width with numbers.

10,b. Now draw a different rectangle with an area of 36 square inches. Label the length and width with numbers.

11. Make up a story problem in which you need to find the area of a space.

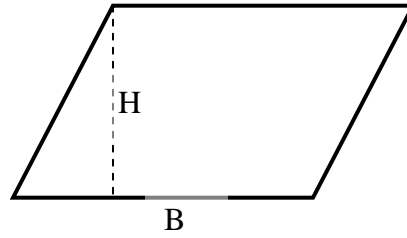
12. Circle the correct formula for the area of a parallelogram.

a. $A = 2L + 2W$

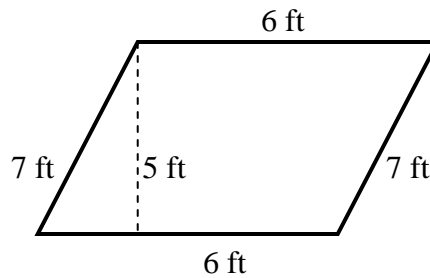
b. $A = \frac{B \times H}{2}$

c. $A = B \times H$

d. $A = \frac{B \times H}{L + W}$



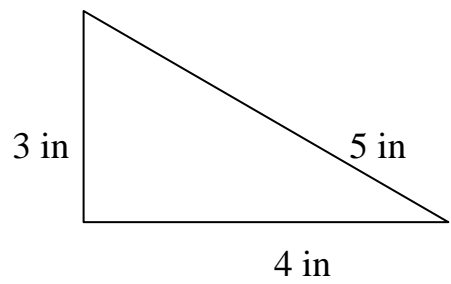
13. Find the area and perimeter of the figure shown below:



a. Perimeter = _____

b. Area = _____

14. Find the area of the following triangle.



Area = _____