



Problem 1 – Area of Squares and Triangles

Start the GEOBOARD app. Select a square board with dimensions 8 × 8.

1. Draw a square by selecting **DRAW**.

Select **ADD** to place a point. When your square has been drawn, select **DONE** and then **QUIT**.

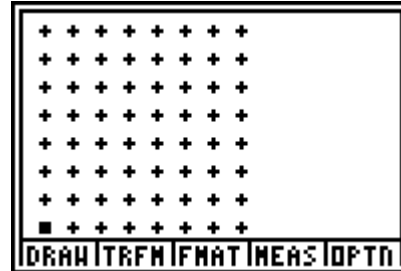
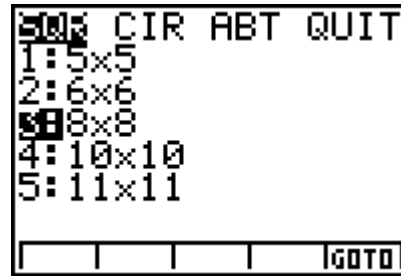
Then select **MEAS** to calculate the area.

What is the area of your square? _____

2. Draw a triangle so one side is the diagonal of the square and the other two sides of the triangle are two sides of the square.

What is the area of the triangle? _____

3. What do you notice about the areas of the square and the triangle?



Problem 2 – Area of Rectangles and Triangles

Select **OPTN** and then choose **Erase Board** to clear the square and triangle drawn in Problem 1.

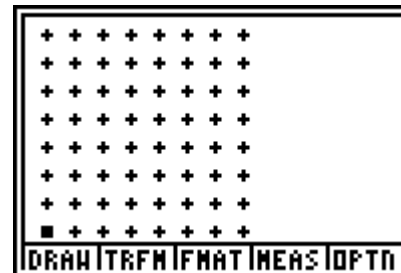
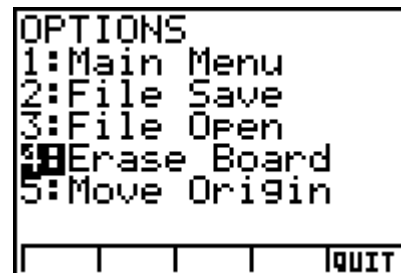
4. Draw a rectangle of any size.

What is the area of your rectangle? _____

5. Draw a triangle so one side is the diagonal of the rectangle and the other two sides of the triangle are two sides of the rectangle.

What is the area of the triangle? _____

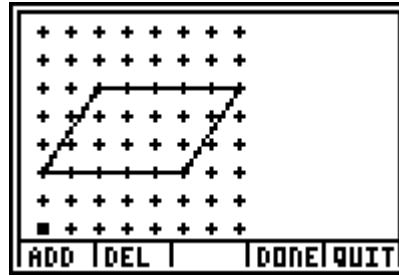
6. What do you notice about the areas of the rectangle and the triangle?



Problem 3 – Area of Parallelograms and Rectangles

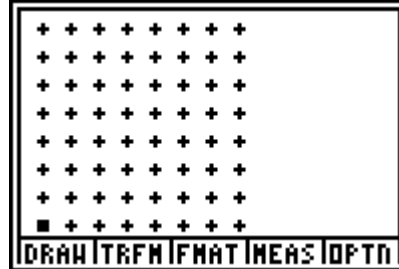
Choose **Erase Board** again to clear the rectangle and triangle drawn in Problem 2.

7. Draw a parallelogram with the general shape shown at the right.



What is the area of your parallelogram? _____

8. Draw a rectangle that has the same area as the parallelogram.



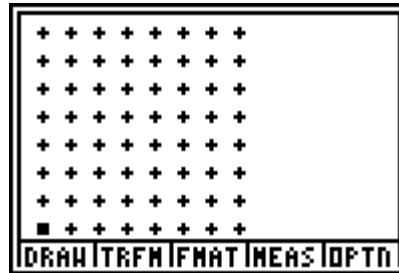
9. What do you notice about the shape of the parallelogram compared to the rectangle with the same area?

10. What is the formula for the area of a parallelogram? _____

Problem 4 – Area of Parallelograms and Triangles

Choose **Erase Board** again to clear the rectangle and parallelogram.

11. Draw a parallelogram of any size.



What is the area of your parallelogram? _____

12. Draw a triangle so one side is the diagonal of the parallelogram and the other two sides of the triangle are two sides of the parallelogram.

What is the area of the triangle? _____

13. What do you notice about the areas of the parallelogram and the triangle?

14. What types of triangles were drawn in Problems 1, 2, and 4?

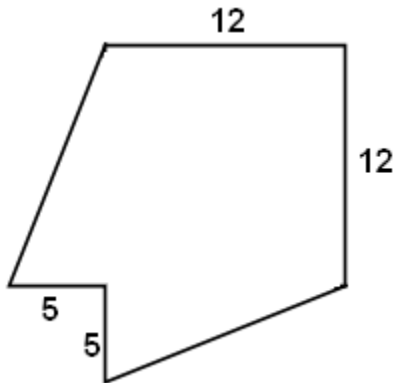
15. What is the formula for the area of a triangle?



Extension – Area of Complex Figures

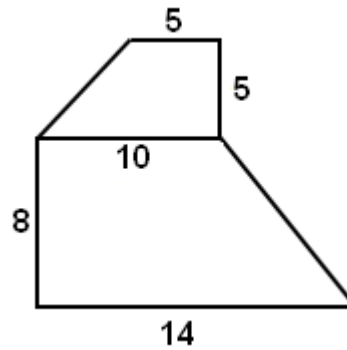
Calculate the area of each complex figure. Show your work to indicate how you broke apart each figure to find the area.

1.



Area: _____

2.



Area: _____

3. Write a brief description to explain how to find the area of a complex figure.
