



Geometry & Measurement Student Activity

Area of Parallelogram

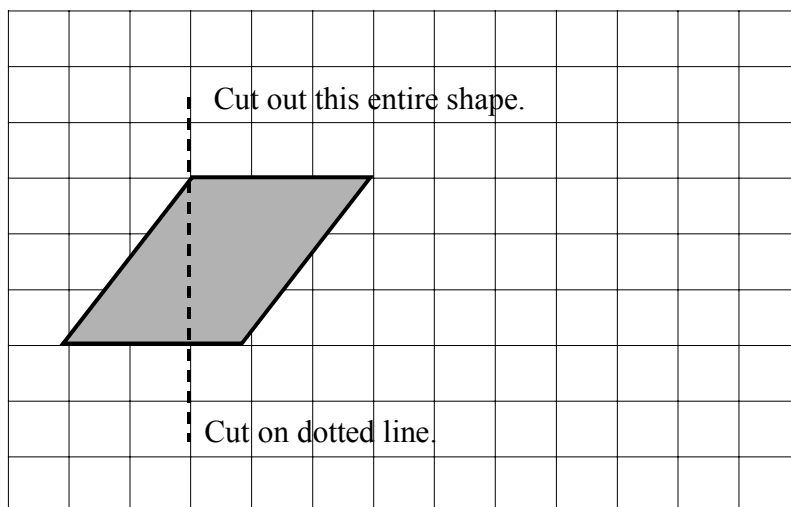
Finding the Area of a Parallelogram

Prior to doing this activity you must be able to:

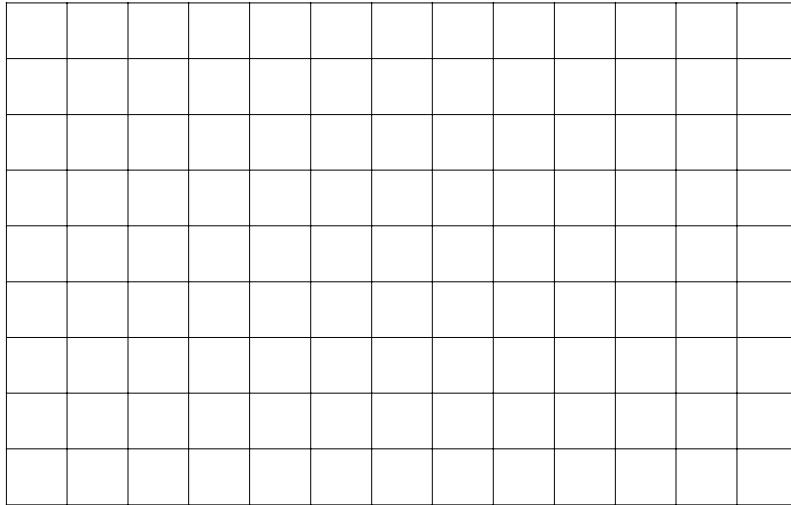
- Define area.
- Define and identify a parallelogram.
- Calculate the area of a rectangle and a square.

INSTRUCTIONS:

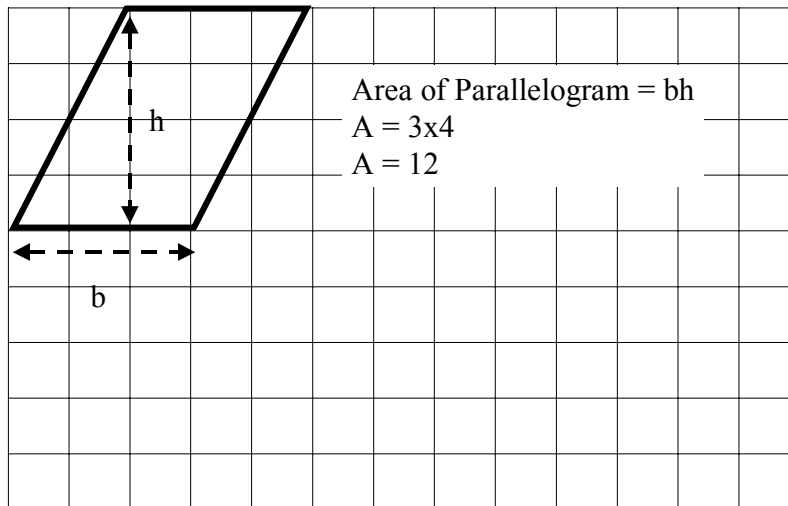
- Gather the required materials (paper, pencils, scissors, tape, worksheet).
- Understand that you could just count the grid squares inside the parallelogram to determine the area, but you need to discover a general way to find the area for all parallelograms.



1. Cut out the shape above. Also cut it into two pieces on the dotted line.
2. Re-arrange the two pieces to form a figure for which we already have an area formula.



3. Tape the two trapezoids (in the form you created in step 2) down on the grid above. Leave room around it to take notes.
4. Find the area of the "new form" you created. You MUST use a formula to calculate the area.
5. Create a statement about a possible relationship between the formula for the area of a rectangle and the formula for the area of a parallelogram.
6. Apply / check your statement (formula) in drawing 3. The answer is demonstrated for you. Make certain that you understand how this calculation was determined before proceeding.
7. Once you have verified your formula, complete the following questions.
 - A rectangle with a height of 4 cm and a width of 2cm has an area of _____.
 - A square with a side measurement of 5 cm has what area?
 - A parallelogram with a base of 6 metres and a height of 4 metres has an area of _____ metres.
 - A triangle with a base of 10 cm and a height of 7 cm has an area of _____.



ANSWERS:

- The formula for the area of a parallelogram is base times height.
- A rectangle with a height of 4 cm and a width of 2cm has an area of $4 \times 2 = 8 \text{ cm}^2$
- A square with a side measurement of 5 cm has what area?
 $A = 20 \text{ cm}^2$
- A parallelogram with a base of 6 metres and a height of 4 metres has an area of 24 metres.
- A triangle with a base of 10 cm and a height of 7 cm has an area of $\frac{1}{2}bh = 35 \text{ cm}^2$