

Area of a Parallelogram

Student Activity

7 8 9 10 11 12



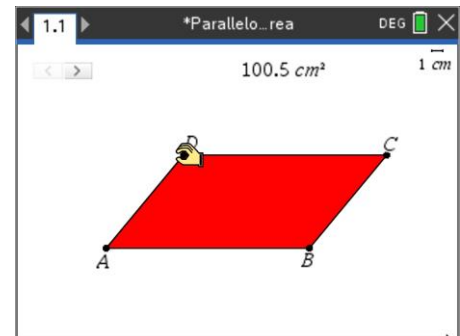
Introduction

In this activity you will explore ways to determine the area of a parallelogram.

Exploring

Open the TI-Nspire document: Parallelogram Area

Use the trackpad to grab and move vertex A.



Question: 1

Does moving vertex A change the area of the parallelogram?

Question: 2

Grab vertex B. Does changing vertex B change the area of the parallelogram?

Question: 3

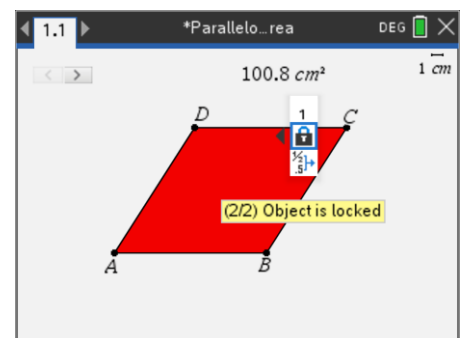
Grab vertex D. Does changing vertex D change the area of the parallelogram?

Adjust the appropriate vertices so that the area of the parallelogram is approximately 100cm².

Place the mouse over the top of the area measurement and press:

ctrl + **menu** to access the contextual menu.

Select **Attributes** from the drop-down menu, then arrow down to the padlock and across to lock it! The area of the parallelogram is now locked and will not change.



Question: 4

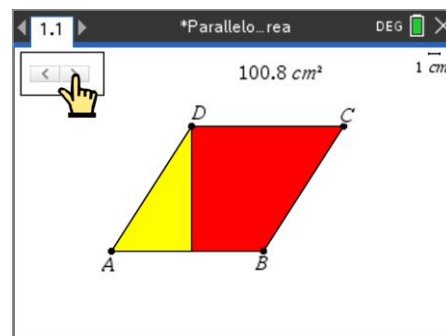
With the padlock 'locked', drag vertex D. Can the parallelogram still change shape?

Navigate to the slider (top right of screen) and click on the right-hand side of the slider.

With each click on the slider a slight change will happen to the diagram.
For the first click a triangle appears!

Keep clicking on the slider until some measurements appear.

Note: You can go backwards by clicking the left side of the slider.



Question: 5

Complete the following statement: "The area of the parallelogram is equal to:"

Question: 6

Unlock the area of the parallelogram. Drag point D around with the slider on the last animation stage. Record four different parallelogram dimensions and the corresponding area.

Question: 7

Describe how the area of a parallelogram can be calculated.

Question: 8

If the parallelogram is cut in half along the diagonal: AC or BD, what shape will result?