

Set the Sails!



The sails on a sailboat are set according to the direction of the wind and the bearing. When one jibes or tacks, the main sail is moved from one side of the boat to the opposite about the mast. As the captain tacks, the sailboat is translated in a direction called its bearing. When the captain yells, “ready jibe or ready tack”, the sailboat is then rotated about its bow to a new position and the sails are set for this new course.

You will be modeling “setting the sails” in a coordinate plane using graphing technology and make generalizations about transformations of a sail as a mapping of points in this plane.

1. Use a TI-83+ with Cabri Junior™ software to investigate reflections, translations, sequences of reflections and translations, and rotations in a coordinate plane.
2. Follow the instructions on the Activity Sheet *Set the Sails*. Ask your instructor for assistance in using the Cabri Junior™ software on your graphing calculator when needed.
3. You will study patterns on the graphs and tables and make generalizations about the transformations presented.
4. Good luck and smooth sailing !

