WHICH WAY TO STEER?

HIGH SCHOOLS
POWERED BY AOPA

WIND CORRECTION DIAGRAMMING

OBJECTIVE

Understand the trigonometry underlying the wind triangle.

MATERIALS (Per Group)

- Card stock
- Ruler
- Protractor
- Tape
- Scissors

INSTRUCTOR PREPARATION

The video below explains in detail the trigonometry of wind triangles. Students with some experience in trigonometry may find this helpful and interesting.

- "Wind Correction Worksheet Activity" (Length 22:50)
  https://safeYouTube.net/w/g3Uw

  If unable to access Safe YouTube links, the video is also available here:
  https://www.youtube.com/watch?v=FKIVR_K_43Y

PROCEDURE

Watch the video to observe a demonstration of the trigonometry that makes a wind triangle work. Answer the questions below.

QUESTIONS

1. As demonstrated in the video, what primary trigonometric function is used to calculate a wind correction for an aircraft flying through an air mass?

   The sine function

2. Does a person need to understand advanced mathematics to be a good pilot?

   Responses will vary. Generally, however: There is some value in understanding math, but advanced capabilities like calculus or trigonometry—even if they are the actual math used—can be applied in a simpler and more understandable fashion. A greater understanding of advanced math may be helpful to be a good pilot, but it is not required.

3. Create your own wind triangle scenario by using a true course, wind velocity, and airspeed that you make up. Try determining the wind correction angle using the wind triangle method from the lesson and the trigonometric method. Online flight computers such as this one (https://e6bx.com/e6b/) allow you to check your answer easily.

   Student responses will vary.