

Name \_\_\_\_\_

Date \_\_\_\_\_

A seismometer is an instrument that responds to ground motions, such as caused by earthquakes, volcanic eruptions, and explosions. Seismometers are usually combined with a timing device and a recording device to form a seismograph. After an earthquake, you are given seismograph readings from three locations in Virginia. Your job as a scientist is to determine where the epicenter of the earthquake is located.

- Near Tappahannock at A (2,1), the epicenter is 5 units away.
- Near Farmville at B (-2, -2), the epicenter is 6 units away.
- In Near Harrisonburg at C (-6, 4), the epicenter is 4 units away.

Could a person living in Norfolk, VA feel the effects of the earthquake? Mathematically, justify your answer and provide a labeled diagram which models the problem and shows all variables to which you will refer.



[Desmos graphing calculator link](#)

1. What are the coordinates of the epicenter?

