

## PHYSLETS ANSWER SHEET

WS3A1

Waves / Set 3 / Animation 1

Name \_\_\_\_\_\_

Class \_\_\_\_\_

<Show all work on calculations. Include proper units. Explanations require complete sentences.>

- 1) In which animation is the speed of the waves equal to the speed of the source?
- 2) Imagine a stationary observer located at a point to the right of the source in animation 2.a) Describe what happens to the amplitude of the wave as the source approaches, passes, and recedes from the observer.

b) Describe what happens to the frequency of the wave as the source approaches, passes, and recedes from the observer.

c) Describe what happens to the wavelength of the wave as the source approaches, passes, and recedes from the observer.

3) In which animation is the wavelength to the right of the source equal to the wavelength to the left of the source?

4) In which animation does the speed of the source exceed the speed of the waves?

5) Assume the source is producing sound waves. If an observer traveled to the right at the speed of the source in animation 3 in which of the five animations would the observer hear a change in frequency due to the Doppler effect?