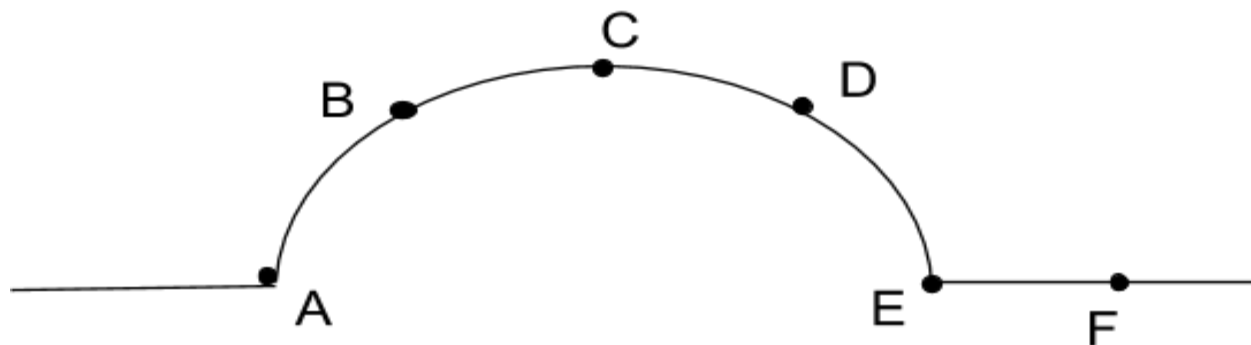


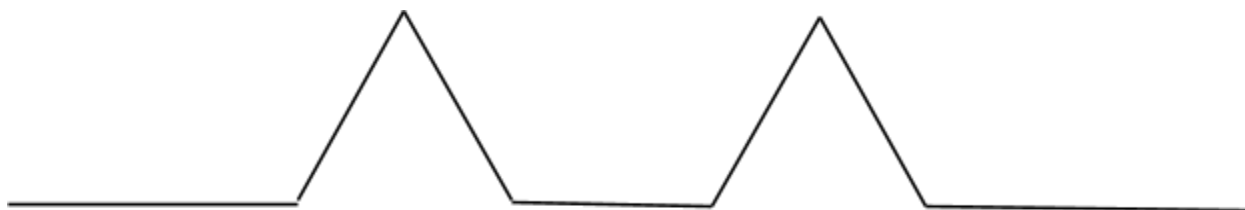
Describing a Pulse

The following pulse is traveling to the right along a slinky. Assume each point is equally spaced along the slinky when the slinky is in equilibrium.



1. Describe the velocity of each point that is labelled above.
 - A.
 - B.
 - C.
 - D.
 - E.
 - F.
2. Assume the pulse took 0.4 seconds to create. Identify the location and velocity of each point 0.1 seconds later. A diagram might help.
 - A.
 - B.
 - C.
 - D.
 - E.
 - F.

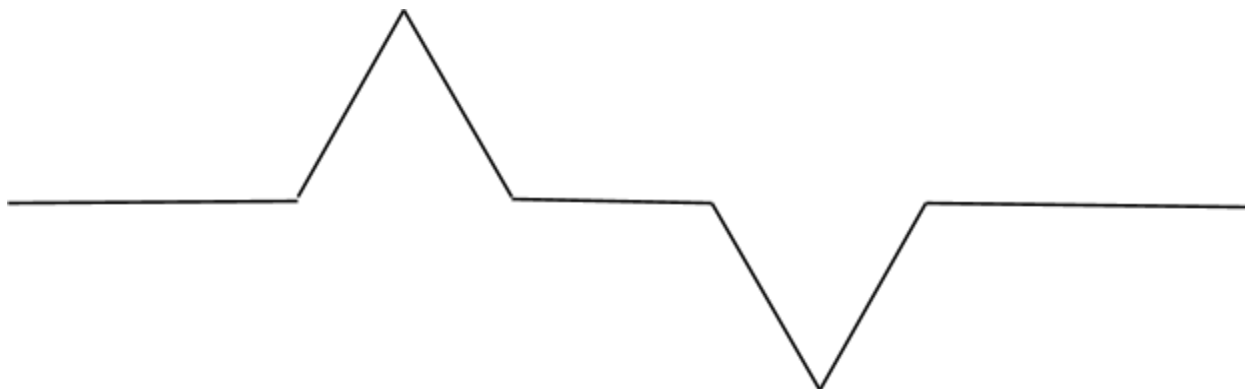
3. Assume the following pulses are traveling in opposite directions along the slinky and each took the same amount of time to create.



Sketch a series of diagrams that show the arrangement when:

- the pulses initially meet.
- the pulses initially overlap by $\frac{1}{4}$ of the pulse.
- the pulses overlap by $\frac{1}{2}$ of a pulse.
- the pulses overlap by $\frac{3}{4}$ of a pulse.
- the pulses completely overlap.
- the pulses overlap by $\frac{3}{4}$ of a pulse the second time.
- the pulses overlap by $\frac{1}{2}$ of a pulse the second time.
- the pulses overlap by $\frac{1}{4}$ of a pulse the second time.

4. Assume the following pulses are traveling in opposite directions along the slinky and each took the same amount of time to create.



Sketch a series of diagrams that show the arrangement when:

- the pulses initially meet.
- the pulses initially overlap by $\frac{1}{4}$ of the pulse.
- the pulses overlap by $\frac{1}{2}$ of a pulse.
- the pulses overlap by $\frac{3}{4}$ of a pulse.
- the pulses completely overlap.
- the pulses overlap by $\frac{3}{4}$ of a pulse the second time.
- the pulses overlap by $\frac{1}{2}$ of a pulse the second time.
- the pulses overlap by $\frac{1}{4}$ of a pulse the second time.

5. On your diagrams, identify four key positions and add the velocity vectors to your diagram.