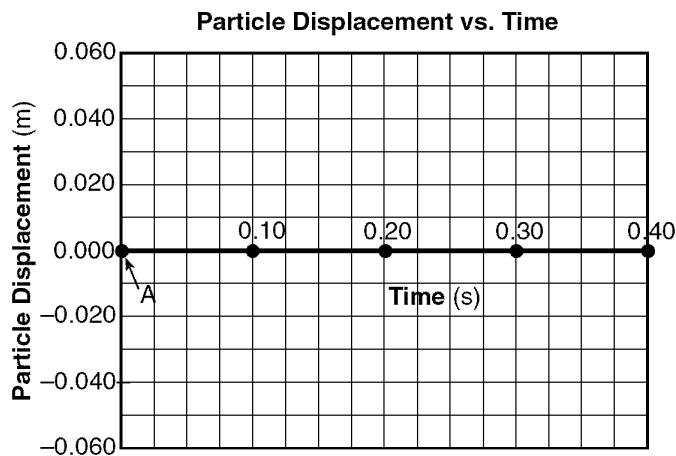Base your answers to questions **1** through **3** on the information below.

A periodic wave traveling in a uniform medium has a wavelength of 0.080 meter, an amplitude of 0.040 meter, and a frequency of 5.0 hertz.

Particle Displacement vs. Time

1. Calculate the speed of the wave. [Show all work, including the equation and substitution with units.]

2. On the grid above, starting at point *A,* sketch a graph of *at least one* complete cycle of the wave showing its amplitude and period.

3. Determine the period of the wave.

4. An FM radio station broadcasts its signal at a frequency of 9.15×10^7 hertz. Determine the wavelength of the signal in air.

N

Part 2 Review N

5. The diagram below represents a transverse wave moving along a string.

A   B   C   D

A   B   C   D

On the diagram draw a transverse wave that would produce complete destructive interference when superimposed with the original wave.

Base your answers to questions **6** and **7** on the information below.

A transverse wave with an amplitude of 0.20 meter and wavelength of 3.0 meters travels toward the right in a medium with a speed of 4.0 meters per second.

Amplitude (m) vs **Distance** (m)

0.30
0.20
0.10
0.00
-0.10
-0.20
-0.30

0.0   3.0   6.0

6. Calculate the period of the wave.

7. On the diagram place an **X** at each of *two* points that are in phase with each other.