**Interference and Diffraction**



**1.** Draw a diagram which illustrates diffraction of waves in a ripple tank. Include the barrier(s) if any are required to produce diffraction.

**2.**  In each of the diagrams below, determine what kind of interference the two wave pulses will produce when they meet each other. Sketch each interference pattern.

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|  | Type of Interference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Pattern: |
|  | Type of Interference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Pattern: |
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|  | Type of Interference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Pattern: |

**3.** Define ‘node’ and ‘antinode’:

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**4**. Explain why radio stations do not build *more* than one broadcast antenna in the same area in order to reach a larger population.

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**5**. Sketch the interference pattern produced by the waves in the diagram to the right.

What changes would you make to the *barriers* to produce more antinodes?

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What changes would you make to *wavelength* to reduce the number of antinodes?

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