

## Classroom

### Minds on Physics

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#### Waves

##### WM2 Wave Characteristics

Two boats - Boat A and Boat B - are anchored a distance of 24 meters apart. The incoming water waves force the boats to oscillate up and down, making one complete cycle every 20 seconds. When Boat A is at its peak, Boat B is at its low point. There are never any wave crests between the two boats. The vertical distance between Boat A and Boat B at their extreme is 10 meters. The wavelength is 48 m, the period is 20 s, the frequency is 0.05 Hz, and the amplitude is 5 m. (HINT: begin with a diagram.)

- a. 24, 0.05, 20, 10  
 b. 48, 20, 0.05, 5  
 c. 24, 0.05, 20, 5  
 d. 12, 0.05, 20, 10  
 e. 48, 20, 0.20, 5  
 f. 48, 0.05, 20, 5  
 g. 12, 20, 0.05, 5  
 h. 24, 20, 0.05, 10  
 i. None of these

Sketch it out to help solve it!

[View Objectives](#)

[Quit Assignment](#)

#### For Practice Mode

Answer:

b

[Check Answer](#)

Number Possible

11

Number Correct

0

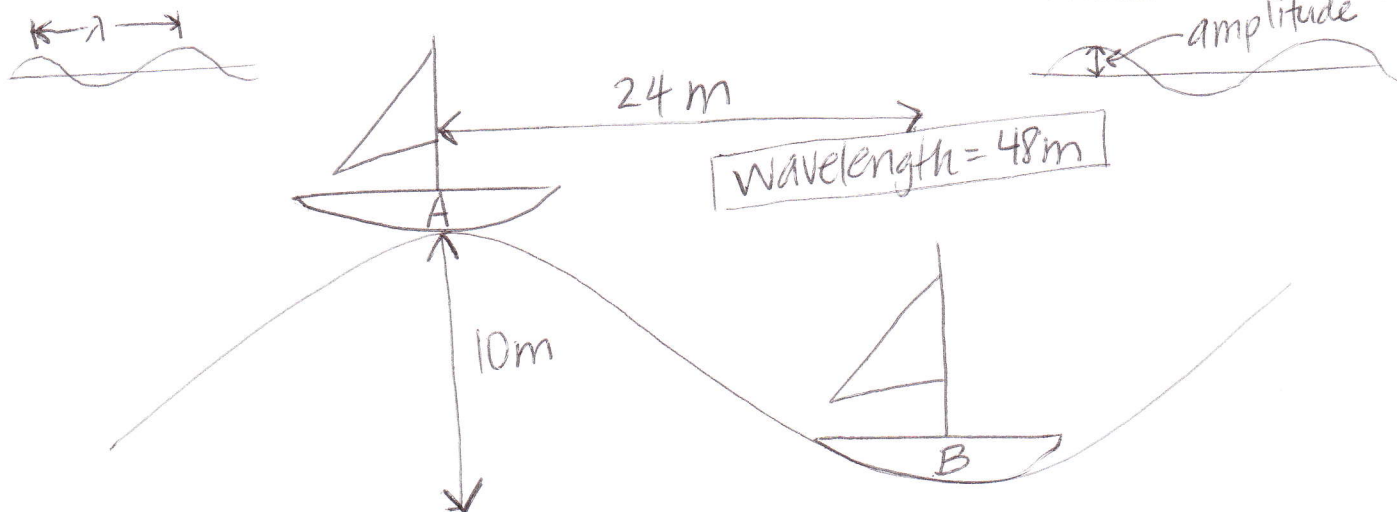
Number Wrong

5

?  
 Questions

Hints & Help

!



amplitude = 5 m

one cycle every 20 sec

$$f = \frac{1}{20 \text{ s}} = 0.05 \text{ Hz}$$

$$T = \frac{1}{f} = 20 \text{ s}$$