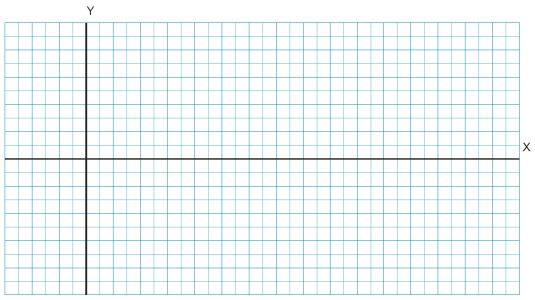
Interpreting Periodic Graphs

Dec 2-9:16 AM

A group of students is tracking a friend, John, who is riding a Ferris wheel. They know that John loaded the ferris wheel at t=0 at a height of 1m. They know it took him 90 sec to do one complete revolution, and he had a maximum height of 41m off the ground.



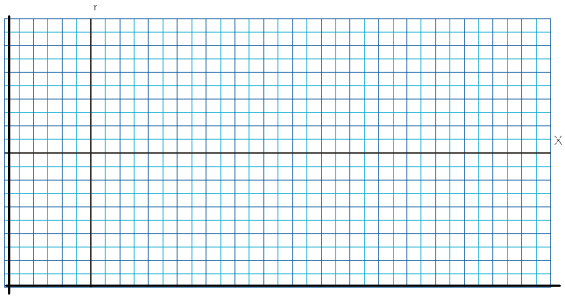
What is the equation that models this situation?

How high off the ground is John (i) 40 sec into the ride? (ii) 100 sec into the ride?

When does John have a height of 30m off the ground?

Dec 8-8:19 PM

Data was collected for the rising and falling tides on the ocean. High tide was 6m above the ocean floor and occurred at 8am. 10hrs later at low tide, the height above the ocean floor was 2m. Graph 2 complete cycles of the tide, starting at high tide (8am).



What is the equation that models the tidal height?

What is the depth of the water at 3pm on the first day?

What is the water level at 8am on the second day?

For how many hours is the water level below 3m on the first day?

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Practice

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