

**Quantum Mechanics**  
**Physics 237**

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**Announcements**

- Midterm Exam # 1 will take place next week, February 20, between 8 am and 9.30 am. Location to be announced.
- The material covered are Chapters 1 – 4.
- I will provide an equation sheet with the most important equations we discussed in these four Chapters.
- There will be extra office hours on Monday February 20. Monday's recitation will focus on a review of the material to be covered on the exam.
- There will be no recitations on Wednesday and on Thursday next week.

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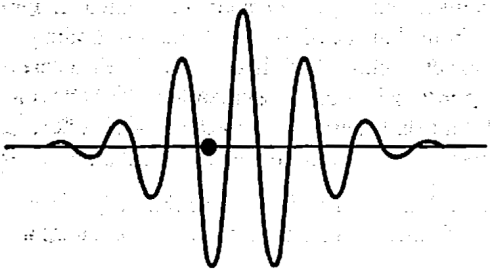
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**The wavefunction.**  
**Finding the probability  $P(x)$ .**



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### 3 Minute 52 Second Intermission.

- Since paying attention for 1 hour and 15 minutes is hard when the topic is physics, let's take a 3 minute 52 second intermission.
- You can:
  - Stretch out.
  - Talk to your neighbors.
  - Ask me a quick question.
  - Enjoy the fantastic music.




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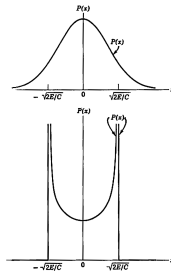
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### Simple harmonic motion.

- The classical and quantum model make very different predictions on the probability to find the particle at a particular position.
- Consider the equilibrium position  $x = 0$ :
  - In the classical model, the particle spend the least amount of time at  $x = 0$ .
  - In the quantum model, the particle spend the most amount of time at  $x = 0$ .




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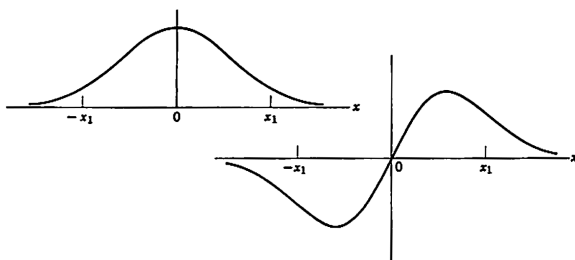
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### Wavefunctions. Even and odd functions.




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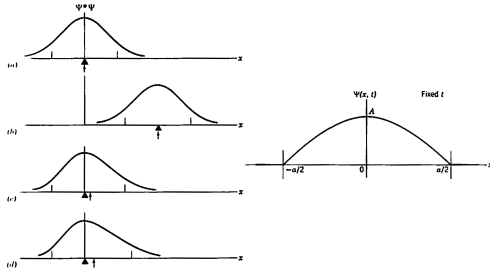
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## Wavefunctions and particle location.



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## ENOUGH FOR TODAY?

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