

**Warm Up**

## Central Limit Theorem (CLT) for Means

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For samples of size  $n = 40$  obtained from the bottle-filling process that has been found to have a mean fill amount of 12 ounces and a standard deviation of 0.9 ounces, answer the following questions about the distribution of the sample means ( $\bar{x}$  or  $x$ -bar).

1. What is the shape of this distribution? \_\_\_\_\_
2. What is the mean of this distribution?  
\_\_\_\_\_
3. What is the standard deviation (round to 3 decimal places)? \_\_\_\_\_
4. Sketch the distribution below, and shade the area of probability where  $\bar{x}$  is greater than 12.4.
  
  
  
  
  
  
  
  
  
5. Calculate the probability that  $\bar{x}$  is greater than 12.4 (round to 4 decimal places).

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**MAIN IDEAS:** List the Main Ideas for Today's Lesson

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