

1. Define the following:
  - a. The sample space (S) for the random experiment of flipping a coin and then tossing a die.  
  
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  - b. Using this sample space, write the event (E) of getting a head and an even number.  
  
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  - c. What is the probability of the event (E)?  
  
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2. Are these events mutually exclusive? Why or why not?
  - a. Pick a ball from a container with 4 red, 3 yellow and 1 blue. The event is picking a red ball or a yellow ball.  
  
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  - b. Draw a black card or a face card from a deck of cards.  
  
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  - c. Draw a diamond or a heart from a deck of cards.  
  
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3. Pick a ball from a container with 4 red, 3 yellow and 1 blue. The event is picking a red ball or a yellow ball. What is the probability of this event?  
  
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4. What is the probability of drawing a black card or a face card from a deck of cards?  
  
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