

**LESSON**  
**11-2**

**Practice C**

***Theoretical and Experimental Probability***

**Solve.**

1. A bowl contains 36 blue, 75 green, and 19 yellow jelly beans. What is the probability of randomly selecting a green jelly bean?  
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2. Two spinners numbered 1–6 are spun. If all numbers are equally likely, what is the probability that the result will be two even numbers?  
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3. Four quilters are preparing patches for a quilt. When finished, the quilt will contain 200 patches. The quilters' contributions thus far are in the table below.

Name	Number of Patches
Lia	65
Brian	17
Elle	88
Len	6

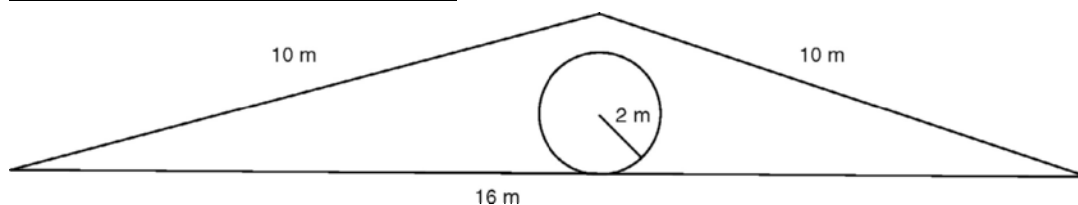
- a. What is the probability that a randomly chosen patch will have been sewn by Elle?  
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- b. What is the probability that a randomly chosen patch will not have been sewn by Lia?  
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- c. What is the probability that a randomly chosen patch will have been sewn by Brian or Len?  
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**A hacker is trying to break into his school's computer system to change his F's to A's. The computer system access password is 5 digits.**

4. If digits in the password are allowed to repeat, what is the probability that the hacker will guess the password correctly on the first try?  
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5. The hacker learns that the password does not contain any repeated digits. What is the new probability that he will randomly guess the password correctly?  
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6. If the password contains no repeated digits, what is the probability that the digits in the school password have a sum less than 10?  
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**Use the diagram to find each probability.**

7. That a random point is within the circle in the triangle  
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8. That a random point is NOT within the circle in the triangle  
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## LESSON 11-2

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### Practice A

- 36 outcomes
- The sample space is blue, red, green, yellow.
- Certain
- Impossible
- $\frac{4}{7}$
- $\frac{1}{3}$
- $\frac{7}{10}$
- $\frac{1}{9}$
- $\frac{53}{100}$
- $\frac{83}{100}$
- $\frac{47}{100}$
- Yellow

### Practice B

- $\frac{4}{11}$
- $\frac{1}{36}$
- $\frac{1}{15}$
- a.  $\frac{2}{3}$   
b.  $\frac{1}{3}$
- $\frac{1}{35}$
- $\frac{9}{16}$
- $\frac{2}{19}$
- $\frac{12}{19}$
- $\frac{7}{19}$
- $\frac{14}{19}$

### Practice C

- $\frac{15}{26}$
- $\frac{1}{4}$
- a.  $\frac{1}{2}$   
b.  $\frac{111}{176}$   
c.  $\frac{23}{176}$

- $\frac{1}{100,000}$
- $\frac{1}{30,240}$
- 0
- $\frac{\pi}{12}$
- $1 - \frac{\pi}{12}$

### Reteach

- a. (2, 1), (1, 2)  
b.  $\frac{1}{18}$
- a. (3, 1), (2, 2), (1, 3)  
b.  $\frac{1}{12}$
- a. (6, 3), (5, 4), (4, 5), (3, 6)  
b.  $\frac{1}{9}$
- a. 55  
b.  $\frac{8}{55}$
- a. 32  
b.  $\frac{32}{55}$
- a. 25  
b.  $\frac{5}{11}$

### Challenge

- a. Possible answer:  $\frac{17}{25} = 0.68$   
b. Possible answer: 16.32 square units  
c. 18.85 square units  
d. Increase the number of random points in a simulation. Repeat the simulations a number of times and take the average of the results.
- The area derived from the simulation will vary but should be close to 50.24 square units.
- The area derived from the simulation will vary but should be close to 62.8 square units