Name Key
Date
Class

10.3 A Practice: Experimental & Theoretical Probability

You have four sticks. Two sticks have one blue side and one pink side. One stick has 2 blue sides. One stick has 2 pink sides. You throw the sticks 20 times and record the results. Use the table to find the experimental probability of the event.

Outcome	Frequency
3 blue, 1 pink	7
2 blue, 2 pink	9
1 blue, 3 pink	4

1. P (Tossing 1 pink and 3 blue) = $\frac{7}{20} = 0.35 = 35\%$

2. P (Tossing the same number of blue and pink) = $\frac{9}{20} = 0.45 = 45\%$

3. P (*Not* tossing 3 pink) = $\frac{16}{20} = \frac{4}{5} = 0.80 = 80\%$

4. P (Tossing at most 2 blue) = $\frac{13}{20} = 0.65 = 65\%$

5. You check 30 containers of yogurt.
Seven of them have an expiration date within the next 3 days.

   a. What is the experimental probability that a container of yogurt will have an expiration date within the next 3 days? $\frac{7}{30} \approx 0.233 = 23.3\%$

   b. Out of 120 containers of yogurt, how many would you expect to have an expiration date within the next 3 days?
   28 containers

6. The plant produces 1200 packages of grapes. An inspector randomly chooses 24 packages and discovers that 8 of the packages have broken seals. How many of the 1200 packages of grapes would you expect to have broken seals?
   400 packages

7. You flip 3 coins 50 times, and flipping 3 tails occurs 6 times.

a. What words above refer to the *total number of trials*? times

What is the total number of trials? 50

b. What words above refer to the *number of times the event occurs*? occurs 6 times

How many times does the event occur? 6

c. What words above refer to the *event*? flipping 3 tails

What is the event? flipping 3 tails

d. What is the experimental probability that you flip 3 tails?

$\frac{3}{25} = 0.12 = 12\%$

e. How many times would you expect to flip 3 tails out of 200 trials of flipping 3 coins?

24 times