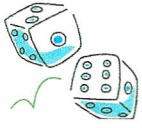


# #7 WHAT'S THE CHANCE?

Name KEY

Directions: Toss the die 60 times and record your results. Use the tally marks for grouping your findings.



Number showing on your die					
1	2	3	4	5	6

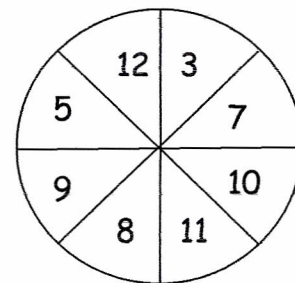
Using data from the above chart, record your findings in the chart below. Reduce all fractions to lowest terms.

	Theoretical Probability (fraction)	Reduced fraction	Experimental Probability	Was it close?
1. Number showing was 4	$\frac{1}{6}$			
2. Number showing was 3 or 4	$\frac{2}{6}$	$\frac{1}{3}$		
3. Number showing was less than 5 1 2 3 4	$\frac{4}{6}$	$\frac{2}{3}$		
4. Number showing was odd or less than 5 (do not use a number twice) 1 3 5 1 2 3 4	$\frac{5}{6}$			
5. Number showing was a composite # 4 6	$\frac{2}{6}$	$\frac{1}{3}$		
6. Number showing was 6	$\frac{1}{6}$			
7. Number showing was even 2 4 6	$\frac{3}{6}$	$\frac{1}{2}$		
8. Number showing was prime 2 3 5	$\frac{3}{6}$	$\frac{1}{2}$		
9. Number showing was less than 3 1 2	$\frac{2}{6}$	$\frac{1}{3}$		
10. Number showing was a multiple of 3 3 6	$\frac{2}{6}$	$\frac{1}{3}$		

### ROLLING 2 DICE

Find the probability of each:

	Fraction	Reduced fraction
P(5) or P(2) $\frac{1}{6} + \frac{1}{6}$	$\frac{2}{6}$	$\frac{1}{3}$
P(odd) or P(even) $\frac{3}{6} + \frac{3}{6}$	$\frac{6}{6}$	1
P(prime) and P(4) $\frac{3}{6} \cdot \frac{1}{6}$	$\frac{3}{36}$	$\frac{1}{12}$
P(greater than 4) and P(composite) $\frac{2}{6} \cdot \frac{2}{6}$	$\frac{4}{36}$	$\frac{1}{9}$
P(odd) and P(even) $\frac{3}{6} \cdot \frac{3}{6}$	$\frac{9}{36}$	$\frac{1}{4}$
P(prime) or P(less than 3) $\frac{3}{6} + \frac{1}{6}$ (do not use a number twice)	$\frac{4}{6}$	$\frac{2}{3}$



### SPINNER

Find the probability using the spinner:

odd: 3, 5, 7, 9, 11

prime: 3, 5, 7, 11

P(odd) and P(prime) $\frac{5}{8} \cdot \frac{4}{8} = \frac{20}{64}$	$\frac{5}{16}$
P(even) and P(less than 5) $\frac{3}{8} \cdot \frac{1}{8}$	$\frac{3}{64}$
P(composite) or P(prime) $\frac{4}{8} + \frac{4}{8}$	1

Find the probability of each:

Toss 2 coins	HT $(\frac{1}{2})^2 = \frac{1}{4}$	HH —————→	TT
Toss 3 coins	HHT $(\frac{1}{2})^3 = \frac{1}{8}$	HTH —————→	TTT
Toss 4 coins	HHTT $(\frac{1}{2})^4 = \frac{1}{16}$	HHHT —————→	TTTH

Determine the number of passwords there are if each must consist of 2 letters and 3 numbers.

$$26 \cdot 26 \cdot 10 \cdot 10 \cdot 10 = 676,000$$

What is the probability of choosing rh618 as a password?

$$\frac{1}{676,000}$$

What is the probability that 4 lottery machines will all produce the number 5?

$$\frac{1}{10} \cdot \frac{1}{10} \cdot \frac{1}{10} \cdot \frac{1}{10} = \frac{1}{10,000}$$