

BE-1A WEDNESDAY 9-30-09

- ① Convert $\frac{1}{6}$ to a decimal by long division. "move the fraction"
- ② Convert the decimal in ① to a percent. (to the nearest tenth)

$$\textcircled{1} \frac{1}{6} \Rightarrow 6 \overline{) 1.000000} = \boxed{16.7\%}$$

$$\begin{array}{r} 0.1\bar{6} \\ 6 \overline{) 1.000000} \\ \underline{6} \\ 40 \\ \underline{36} \\ 4 \end{array}$$

1.

A die (SINGULAR, dice = PLURAL) has six possible ROLLS:  ,  ,  ,  ,  , 
1, 2, 3, 4, 5, 6

The probability of ROLLING A 5
is SHOWN AS: $P(5)$

Read, "the probability of A 5"

Probability is a number. It can be
A fraction, percent, or decimal.
 ↑ ↑
 MOST COMMON

$$P(\text{event}) = \frac{\# \text{ successes}}{\text{total } \# \text{ of possibilities}}$$

$$P(5) = \frac{1}{6} \quad \text{or } 16.7\% \quad \text{or } 0.\overline{16}$$

Tip: Find the total first when you have a probability problem.

(Ex) A bowl has 5 red chips, 7 blue chips, 6 yellow chips, 10 green chips:

$$(A) P(\text{blue}) = \frac{7}{28} = \boxed{\frac{1}{4} \text{ or } .25 = 25\%}$$

$$(B) P(\text{red or yellow}) =$$

$$\frac{5+6}{28} = \boxed{\frac{11}{28} \text{ or } 39\%}$$

$$(C) P(\text{not green}) =$$

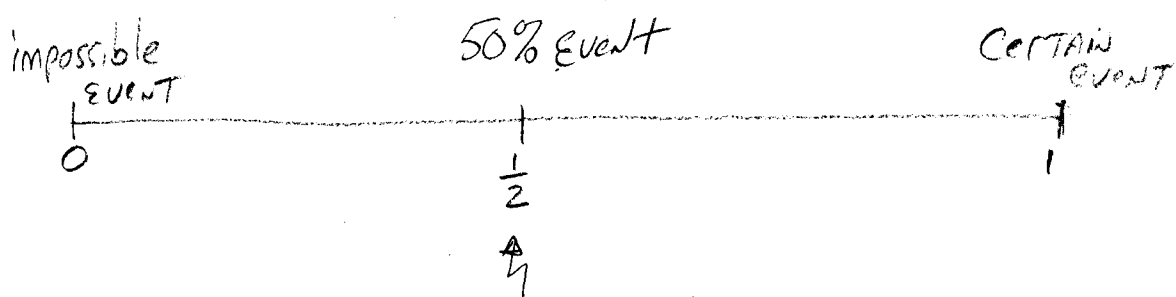
$$\frac{5+7+6}{28} = \frac{18}{28} = \boxed{\frac{9}{14} \text{ or } 64\%}$$

$$(D) P(\text{red or blue or yellow or green}) =$$

$$\frac{28}{28} = 1 \quad \text{The Probability of AN event "CERTAIN" to occur is 1}$$

$$(E) P(\text{orange}) = \frac{0}{28} = 0$$

The probability of an impossible event is zero



just as likely to
OCCUR AS NOT OCCUR

⊕ $P(\text{heads}) = \frac{1}{2}$ or 50%

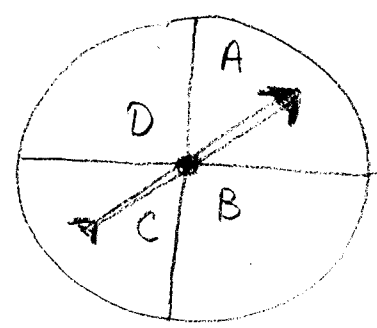
coin toss

EX Pg 96 ROLL one die, $P(\text{even number})$

2, 4, 6 are even so number
of successes is 3

$P(\text{even}) = \frac{3}{6} = \frac{1}{2}$ or 50%

⊕ Spinners: $P(C) = ?$



$P(C) = \frac{1}{4}$ or 25%

Standard deck of cards:

		①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
RED	♦	A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K $\Rightarrow$ 13												
	♥	A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K $\Rightarrow$ 13												
BLACK	♣	A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K $\Rightarrow$ 13												
	♠	A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K $\Rightarrow$ 13												

DIAMONDS, HEARTS, CLUBS, SPADES



52

$$P(\text{red}) = \frac{26}{52} = \boxed{\frac{1}{2} \text{ or } 50\%}$$

$$P(\text{club}) = \frac{13}{52} = \boxed{\frac{1}{4} \text{ or } 25\%}$$

$$P(\text{Ace}) = \frac{4}{52} = \boxed{\frac{1}{13} \approx 8\%}$$

$$P(\text{red jack}) = \frac{2}{52} = \boxed{\frac{1}{26} \approx 4\%}$$

What about rolling 2 dice?

How many ways can each number be rolled?

Make a Row/column table:

		DIE ONE					
		1	2	3	4	5	6
DIE TWO	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12



Sums

$$P(12) = \boxed{\frac{1}{36}}$$

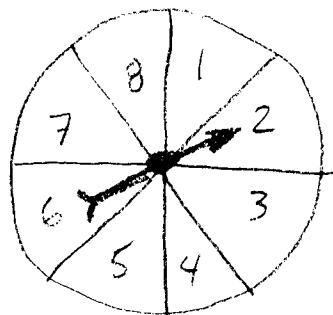
$$P(7) = \frac{6}{36} = \boxed{\frac{1}{6}}$$

A "multiple" of a number is that number times 1, 2, 3, 4, ...

(Ex) multiples of 3 are 3, 6, 9, 12, ...

(Ex) multiples of 8 are 8, 16, 24, 32, ...

(Ex) $P(\text{multiple of } 3) = ?$



$$P(\text{MULT. of } 3) = \frac{2}{8} = \boxed{\frac{1}{4}}$$

Homework: Pg. 98-99 # 4 to 7
14 to 23