

Day 10

## 1.6 Probability

can be expressed as percents, fractions or decimals.

$$95\% = \frac{95}{100} = \frac{19}{20} = .95$$

1 or 100% : Certain the event will happen

0 or 0% : Event is impossible

### 2 Types of Probability :

① Experimental : you or someone else gathered data and you calculate the probability from your observations A.K.A. results.

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
|   |   |   |   |   |   |

30 rolls

$$P(1) = \frac{7}{30} \approx 23\frac{1}{3}\%$$

$$P(2) = \frac{6}{30} = \frac{3}{15} = \frac{1}{5} \approx 20\%$$

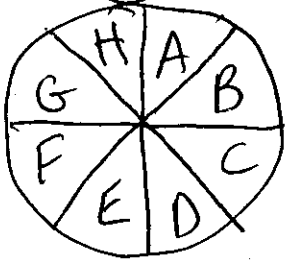
$$P(3) = \frac{2}{30} = \frac{1}{15}$$

$$P(4) = \frac{2}{30} = \frac{1}{15}$$

Theoretical Probability  
how many times it occurs  $\div$   
total sample space

die

$$P(1) = \frac{1}{6}$$



$$P(\text{vowel}) = \frac{2}{8} = \frac{1}{4}$$

$$P(\text{consonant}) = \frac{6}{8} = \frac{3}{4}$$

p.42 ①  $P(\text{Heads}) = \frac{161}{340} \approx 47\%$

$161 + 179 \rightarrow$   
 $P(\text{Tails}) = \frac{179}{340} \approx 53\%$

⑥  $P(\text{red}) = \frac{30}{100} = \frac{3}{10} = 30\%$

⑧  $P(\text{not white}) = \frac{80}{100} = \frac{4}{5} = 80\%$

⑨  $P(\text{red or blue}) = \frac{80}{100} = \frac{4}{5}$

number cube (6) die  
 ⑳  $P(5) = \frac{1}{6}$

㉑  $P(8) = 0$

㉒  $P(\text{even}) = \frac{3}{6} = \frac{1}{2}$

㉓  $P(\# < 5) = \frac{4}{6} = \frac{2}{3}$

$\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

(34)  $P(\text{multiple of } 3) = \frac{3}{9} = \frac{1}{3}$   
3, 6, 9

(36)  $P(\text{Prime}) = \frac{4}{9}$   
↓  
2, 3, 5, 7, 11, 13, 17, ...

$$5a - 10b - 3a + 6b$$
$$\underline{2a - 4b}$$

$$-\frac{5}{4} | -8 |$$

$$-\frac{5}{4} \cdot 8^2 = -10$$

$$4(3)^2 - 7(3) + 9$$

$$4(9) - 21 + 9$$

$$36 - 21 + 9$$

$$\underline{24}$$

Study HW: optional  
But recommended!

p. 50 (3, 8, 11, 20, 23, 26, )

27, 29-31

# Place Your Bets

500

Work Space

Simplify

$$5(a-2b) - 3(a-2b)$$

Wager

300

Total

200

800

Work Space

Simplify

$$-\frac{5}{4} | 2 - 10 |$$

Wager

100

Total

Work Space

Evaluate

$$4x^2 - 7x + 9$$

when  $x = 3$

Wager

Total

Work Space

Solve

$$5(x-12) - 24 = 3(x+2)$$

Wager

Total

Work Space

Solve

$$|x-4| + 3 = 1$$

Wager

Total

Work Space

Evaluate

$$3(x^2 - 4) + 7(x-2)$$

$$x = -5$$

Wager

Total

# Place Your Bets

Work Space

Simplify  
 $a^2 + a + 6a^2 - 9a$

Wager

Total

Work Space

Solve  
 $25 - 2x < 11$

Wager

Total

Work Space

Solve  
 $2 < 10 - 4x < 6$

Wager

Total

Work Space

Solve for h.  
 $A = \frac{1}{2}h(b_1 + b_2)$

Wager

Total

Work Space

Solve  
 $|3x - 2| + 4 \leq 7$

Wager

Total

Work Space

Solve  
 $4|y - 9| > 36$

Wager

Total