

Tuesday, Oct. 16, 2012

No TISK or Mental Math this week.
You will fill out a post-it note for today!

Homework: p. 450 #9-18

§9-1 Probability (part 2)

- The probabilities of all outcomes in the sample space add up to 1.
 - The weather forecast shows a 40% chance of rain.
 - Therefore, $P(\text{rain}) = 40\%$
 - $P(\text{no rain}) = 1 - 0.4 = 0.6 = 60\%$

§9-1 Probability

- Give the probability for each outcome.
- The basketball team has a 70% chance of winning.

Outcome	Win	Lose
Probability	70%	30%

§9-1 Probability

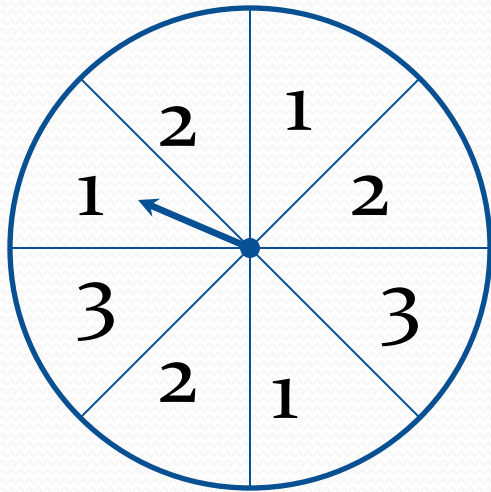
- Outcome
 - Observed result of a trial
- Favorable Outcome
 - The outcome the event is looking for to happen
- Possible Outcome
 - Any outcome that *could* happen

§9-1 Probability

- When you calculate a probability you use the following formula to determine the probability of a random event:
- $P(\text{event}) = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$

§9-1 Probability

- Give the probability for each outcome.

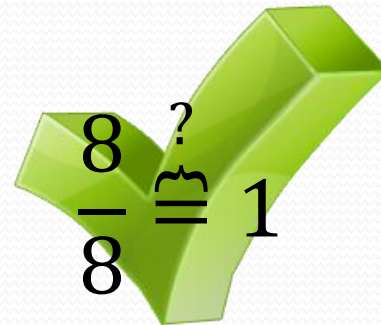


Outcome	1	2	3
Probability	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$

Check:

$$\frac{3}{8} + \frac{3}{8} + \frac{1}{4} = 1$$

$$\frac{3}{8} + \frac{3}{8} + \frac{2}{8} = 1$$



§9-1 Probability

- A quiz contains 5 true or false questions. Suppose you guess randomly on every question. The table below gives the probability of each score.

Score	Probability
0	0.031
1	0.156
2	0.313
3	0.313
4	0.156
5	0.031

- a. What is the probability of guessing 3 or more correct?

$$\begin{aligned}P(3 \text{ or more}) &= P(3) + P(4) + P(5) \\ &= 0.313 + 0.156 + 0.031 \\ &= 0.500\end{aligned}$$

- b. What is the probability of guessing 2 or fewer correct?

$$\begin{aligned}P(2 \text{ or fewer}) &= P(2) + P(1) + P(0) \quad \text{OR} \\ &= 1 - P(3 \text{ or more}) \\ &= 1 - 0.5 = 0.5\end{aligned}$$

§9-1 Probability

- A quiz contains 5 true or false questions. Suppose you guess randomly on every question. The table below gives the probability of each score.

Score	Probability
0	0.031
1	0.156
2	0.313
3	0.313
4	0.156
5	0.031

c. What is the probability of passing the quiz by guessing?

$$P(4 \text{ or } 5) = P(4) + P(5) = 0.156 + 0.031 = 0.187$$

Homework

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