

Wednesday, October 31, 2012

Reminder: If you have a signed quiz that hasn't been checked in, leave it out on your desk while working on your TISK problems.

TISK Problems

- 1) Simplify: $-8p - 6m - (-8p + 3m)$
- 2) Solve for x : $\frac{9}{x} = \frac{30}{50}$
- 3) Convert the number to a decimal and a percent: $\frac{7}{9}$

No Mental Math today.

Homework: 9-8 Worksheet OR Finish your write-up (** your choice)

Homework Check

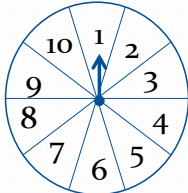
- 1) $P(A) \cdot P(B)$
- 2) $P(A) \cdot P(B \text{ given } A)$
- 3) Answers will vary.
- 4) Answers will vary.
- 5) $\frac{1}{15}$
- 6) $\frac{1}{6}$
- 7) $\frac{2}{3}$
- 8) $\frac{4}{21}$
- 9) Dependent; $\frac{5}{39}$
- 10) Independent; $\frac{11}{80}$ or 13.75%
- 11) $\frac{1}{49}$
- 12) (a) $\frac{1}{22}$ (b) $\frac{6}{11}$

§9-8 Odds

- Odds are another way of expressing probability.
 - Odds compare probabilities using ratios
- Odds are either *in favor* or *against* an event
- To calculate the odds *in favor* of an event...
 - Number of favorable outcomes : number of unfavorable outcomes
- To calculate the odds *against* an event....
 - Number of unfavorable outcomes : Number of favorable outcomes

§9-8 Odds

- Calculate the odds in favor of spinning a multiple of 3.



Odds in Favor of a Multiple of 3
3:7

Key Idea:
Possible Outcomes = Favorable Outcomes + Unfavorable Outcomes


§9-8 Odds

- You have a fair 20-sided die. Find the odds against rolling a prime number.

Favorable Outcomes:
2 3 5 7 11 13 17 19
Number of Favorable Outcomes = 8

Number of Unfavorable Outcomes = 12


Odds against rolling a prime number:
3:2



Wait! Ratios can be reduced just like fractions!

§9-8 Odds

- You try it
 - Find the odds in favor of spinning blue.



Odds in favor of blue
1:3

§9-8 Odds

- If the probability of a certain event occurring is $\frac{3}{5}$ what are the odds *in favor* of the event?

$$P(event) = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}} = \frac{3}{5}$$

To calculate the odds *in favor* of an event...
 Number of favorable outcomes : number of unfavorable outcomes

$$\frac{3}{5} = \frac{3}{3 + x}$$

Possible Outcomes = Favorable Outcomes + Unfavorable Outcomes

§9-8 Odds

- If the probability of an event occurring is 24%, what are the odds against it occurring?

Favorable: 24 Unfavorable:
 100 - 23 = 76

Odds Against the Event

76:24
 19:6

§9-8 Odds

- If the odds against an event are 12:5 what is the probability the event will occur?

Favorable: 5 Unfavorable:
 12

Total Possible Outcomes:
 12+5 = 17

$$P(event) = \frac{5}{17}$$
