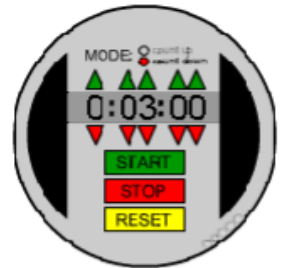


Home: 92Date: 1/20page 656-7 #7-15 and 17-27 odd, 33-39<http://www.mathvizza.com>Bell Work

1. Directions: Please simplify the following.

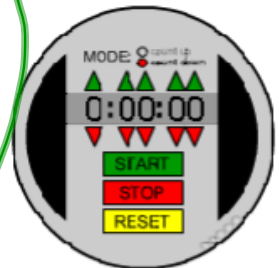
$$\left(\frac{2xt^5}{x^5t^2}\right)^{-2} = \left(\frac{x^5t^2}{2xt^5}\right)^2 = \left(\frac{x^4}{2t^3}\right)^2$$



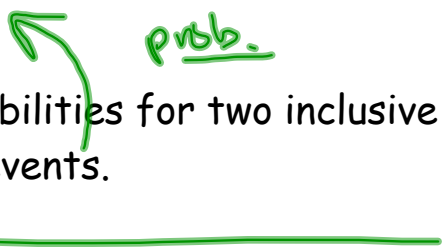
2. Directions: List out the sample space of flipping 2 coins.

$$\begin{array}{c} HH \\ \hline HT \\ TH \\ \hline TT \end{array}$$

$$\frac{x^8}{4t^6}$$



Objectives

1. The students will determine if two given events are inclusive or mutually exclusive.
 2. The students will compute probabilities for two inclusive events and two mutually exclusive events.
 3. The students will comprehend the relationships between an event and its complement.
 4. The students will compute the probability of a complement of an event.
- 





Last Night's Homework

Please take out your combinations and permutations worksheet.



Answer Key.








Two Dice Outcomes

(1,1), (2,1), (3,1), (4,1), (5,1), (6,1)
 (1,2), (2,2), (3,2), (4,2), (5,2), (6,2)
 (1,3), (2,3), (3,3), (4,3), (5,3), (6,3)
 (1,4), (2,4), (3,4), (4,4), (5,4), (6,4)
 (1,5), (2,5), (3,5), (4,5), (5,5), (6,5)
 (1,6), (2,6), (3,6), (4,6), (5,6), (6,6)

Event A=Rolling a total of 6. OR Event B=Rolling a total of 4.

$$\begin{array}{l}
 P(A \text{ or } B) \\
 P(A) + P(B) \\
 \frac{5}{36} + \frac{3}{36} = \frac{8}{36} = \frac{2}{9} = 0.222
 \end{array}$$



Two Dice Outcomes

(1,1), (2,1), (3,1), (4,1), (5,1), (6,1)
 (1,2), (2,2), (3,2), (4,2), (5,2), (6,2)
 (1,3), (2,3), (3,3), (4,3), (5,3), (6,3)
 (1,4), (2,4), (3,4), (4,4), (5,4), (6,4)
 (1,5), (2,5), (3,5), (4,5), (5,5), (6,5)
 (1,6), (2,6), (3,6), (4,6), (5,6), (6,6)

Event A=Rolling a total of 9. OR Event B=Rolling a 5 on only one die.

$$P(A \text{ or } B) = P(A) + P(B) - P(A \cap B)$$

$$\frac{4}{36} + \frac{10}{36} - \frac{2}{36} = \frac{12}{36} = 0.333$$

 Two Dice Outcomes

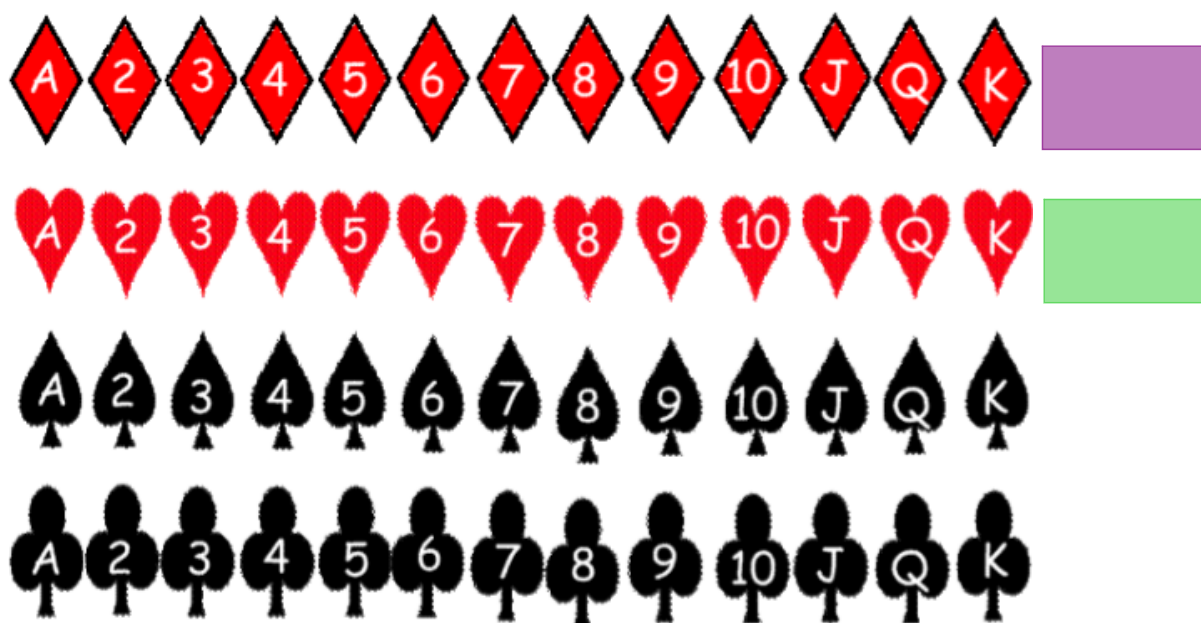
(1,1), (2,1), (3,1), (4,1), (5,1), (6,1)
(1,2), (2,2), (3,2), (4,2), (5,2), (6,2)
(1,3), (2,3), (3,3), (4,3), (5,3), (6,3)
(1,4), (2,4), (3,4), (4,4), (5,4), (6,4)
(1,5), (2,5), (3,5), (4,5), (5,5), (6,5)
(1,6), (2,6), (3,6), (4,6), (5,6), (6,6)

Event A=Rolling an even.

OR

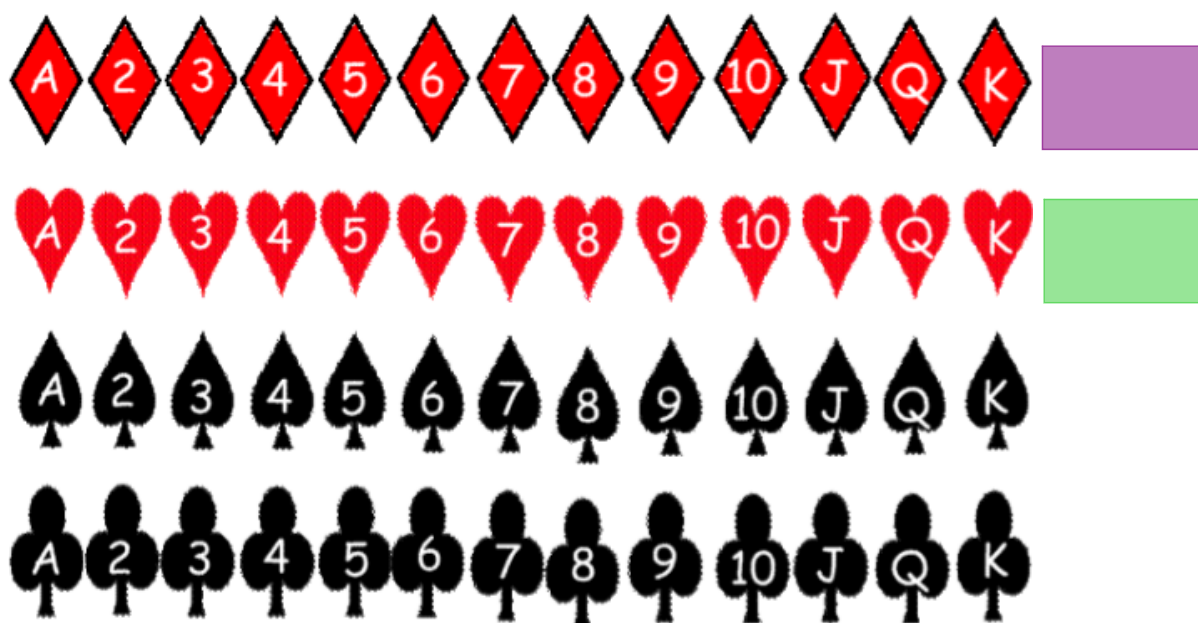
Event B=Rolling an odd.

$P(A \text{ or } B)$



Event A=Picking a Face Card OR Event B=Picking a Red Card

$P(A \text{ or } B)$



Picking a Face Card

OR

Picking a Card <6

$P(A \text{ or } B)$

Vocabulary

Mutually Exclusive - 2 events that can't overlap.

Inclusive - 2 events that have available overlap. E.G. Event A - being a boy
Event B - wearing a hood

Complement of an Event - the un-event
everything but the event

Probability of Mutually Exclusive Events

$P(A \text{ or } B)$

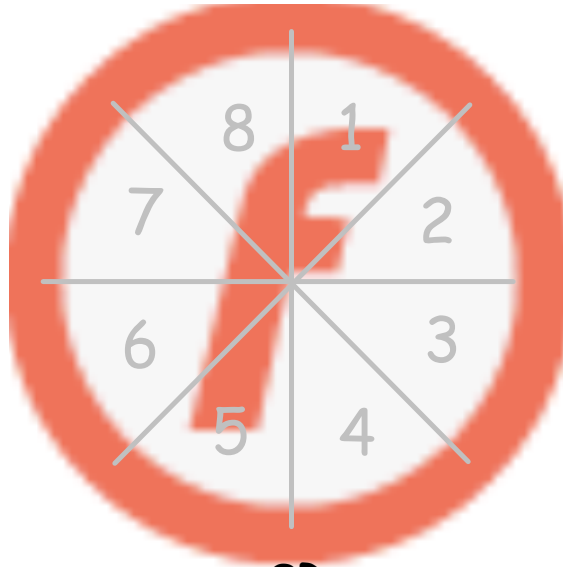
Probability of Inclusive Events

$P(A \text{ or } B)$

Spinning a blue
 Spinning a green
 Spinning a orange
 Spinning a red

Spinning an even
 Spinning an odd

Spinning a number ≤ 3
 Spinning a number > 4
 Spinning a number ≥ 5



OR

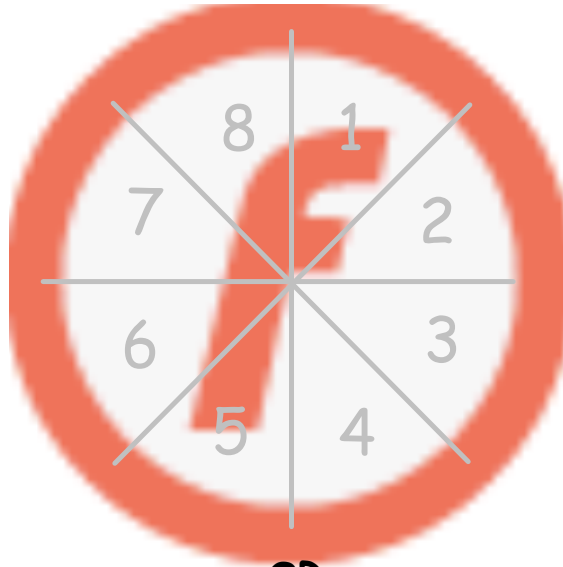
Inclusive Events

Spinning a 1
 Spinning a 2
 Spinning a 3
 Spinning a 4
 Spinning a 5
 Spinning a 6
 Spinning a 7
 Spinning a 8

Spinning a blue
 Spinning a green
 Spinning a orange
 Spinning a red

Spinning an even
 Spinning an odd

Spinning a number ≤ 3
 Spinning a number > 4
 Spinning a number ≥ 5



OR

Mutually Exclusive Events

Spinning a 1
 Spinning a 2
 Spinning a 3
 Spinning a 4
 Spinning a 5
 Spinning a 6
 Spinning a 7
 Spinning a 8

Now for
 Probabilities



The Complement of an Event

Def -



(1,1), (2,1), (3,1), (4,1), (5,1), (6,1)
 (1,2), (2,2), (3,2), (4,2), (5,2), (6,2)
 (1,3), (2,3), (3,3), (4,3), (5,3), (6,3)
 (1,4), (2,4), (3,4), (4,4), (5,4), (6,4)
 (1,5), (2,5), (3,5), (4,5), (5,5), (6,5)
 (1,6), (2,6), (3,6), (4,6), (5,6), (6,6)

Event A=

rolling a total of 4.

P(A)

P(not A)

A simple formula

$$P(A^c) =$$