Compound Events

ID: 10136

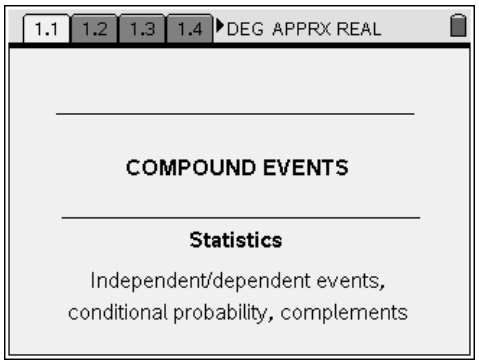
Name _____

Class _____

In this activity, you will explore:

- *Independent and dependent events*
- *conditional probability*
- *Complements*

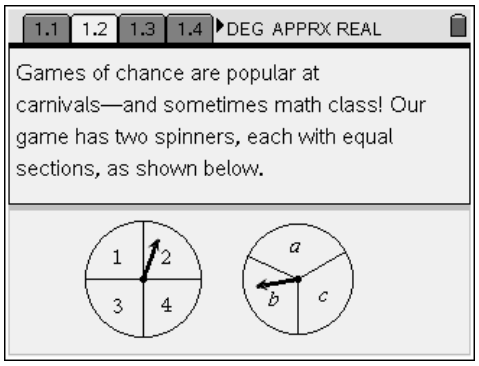
Open the file *StatAct32_CompEvents_EN.tns* on your handheld and follow along with your teacher to work through the activity. Use this document as a reference and to record your answers.



Problem 1 – Independent events

1.3: $P(2)$ = _____ $P(c)$ = _____

1.4: Sample space for spinning both spinners:



$P(2 \text{ and } c)$ = _____

1.5: $P(2) \cdot P(c)$ = _____

1.6: $P(\text{odd number and } a)$ = _____

Problem 2 – Dependent events

2.1: $P(3 \text{ and } b)$ = _____

2.2: Suppose the first spinner stops before the second spinner stops. The first spinner stopped on a 3. What are your chances of winning now? In other words, what is $P(3 \text{ and } b|3)$?

2.3: $P(3 \text{ and } b|b)$ = _____

2.4: $P(3 \text{ and } b|2)$ = _____ Explain.

2.5: Suppose the first spinner is spun twice.
(The second spinner is not spun at all). Show the sample space.

Use your list to find P(3 on first spin and sum of spins is an even number). _____

2.6: Multiply: $P(3) \cdot P(\text{sum of spins is even}|3)$. _____

2.7: $P(1 \text{ on first spin and sum of spins} \geq 3)$ = _____

Problem 3 – Conditional probabilities from a table

	won	lost	did not play	
children	64	95	359	
adults	186	317	298	
seniors	114	206	416	

3.3: *P*(adult|lost) = _____

P(did not play|child) = _____

3.4: *P*(senior) = _____

P(senior|won) = _____

P(won|senior) = _____

Problem 4 – Complements

4.1: A game has 4 upside-down cups. One cup has a prize under it.

P(prize) = _____ *P*(no prize) = _____

4.2: *P*(prize) + *P*(no prize) = _____

4.3: A child plays the cup game 5 times. List all the possible number of times the child could win a prize.

4.4: What is meant by *P*(at least 1 prize)?

4.5: What is the complement of *P*(at least 1 prize)? Find its probability.

4.6: *P*(wins at least one prize in 5 games) = _____

4.7: *P*(wins at least one prize in 3 games) = _____

4.8: Suppose the game has 5 cups where 2 cups have prizes under them.

P(wins at least one prize in 4 games) = _____