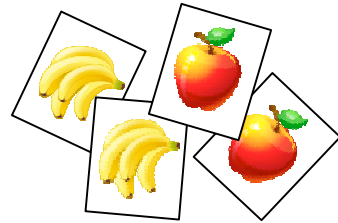


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# Memory Game

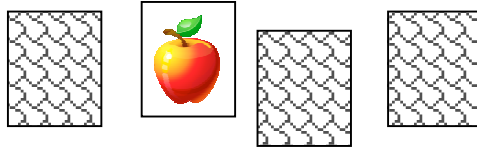
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Ella is teaching her little brother Sammy to play a memory game.



1. She starts with 4 cards, 2 have a picture of an apple on them and 2 have a picture of bananas.

The cards are laid on the table with the pictures hidden, and then mixed up. Ella says 'you can turn over 2 cards and you win if they are the same'.



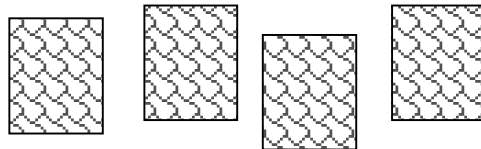
Sammy turns over 1 card, it has an apple on it, then turns another. What is the probability that the second card has an apple on it? Explain how you figured it out.

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2. Sammy did not get 2 cards the same so Ella turns the cards back over so that the pictures do not show, but she did not mix up the cards.

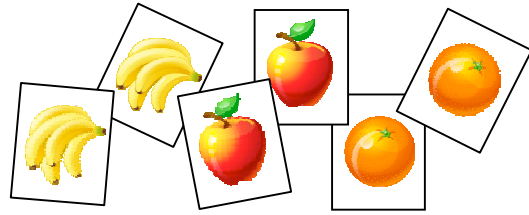


Sammy is good at remembering where things are. He turns over 1 card and then another. How should he choose the first card to turn over so that he can be sure to win?

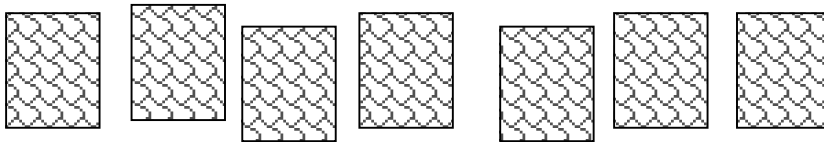
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3. Ella adds 2 cards with pictures of an orange, making 6 cards all together.



She lays all the cards down with the pictures hidden and mixes them up.



Sammy turns over 1 card and then another.

What is the probability that they are both the same?

Explain how you figured it out.

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4. What is the probability that they both have pictures of a banana?

Show how you worked it out.

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Memory Game		Rubric	
		points	section points
1.	Gives correct answer: <b>1/3</b> or 33.3% Gives a correct explanation such as: One of the remaining three cards has an apple on it.	1  1	2
2.	Gives correct answer such as: One of the cards he did not turn over the first time.	1	1
3.	Gives correct answer: <b>1/5</b> or <b>20%</b> Gives a correct explanation such as: It does not matter which card he turns over first, when one card has been turned over there are 5 left and only 1 of those will make the pair. May draw tree diagram.	1  2	3
4.	Gives correct answer: <b>1/15</b> or 6.6% Shows correct work such as: $2/6 \times 1/5$ . May list possibilities or draw tree diagram.	1  1	2
<b>Total Points</b>			<b>10</b>