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## Card Game

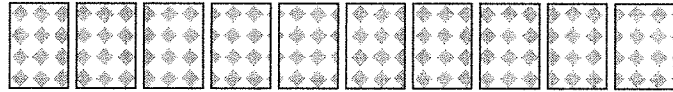
This problem gives you the chance to:

- figure out and explain probabilities
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Mrs Jakeman is teaching her class about probability.

She has ten cards, numbered 1 to 10.

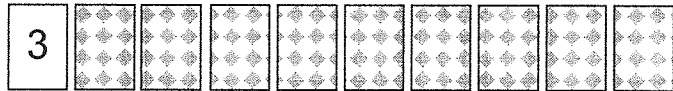
She mixes them up and stands them on a shelf so that the numbers do not show.



Mrs. Jakeman turns the cards around one at a time.

Students have to guess whether the next card will have a higher or a lower number than the one just turned.

The first card turned is the number 3.



1. Would you expect the next number to be higher than 3 or lower? \_\_\_\_\_

Explain why you made this decision.

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The second card is number 10.



2. What is the probability that the next card will be a higher number than 10? \_\_\_\_\_

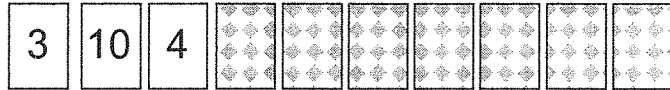
Explain how you know.

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The third card is number 4.



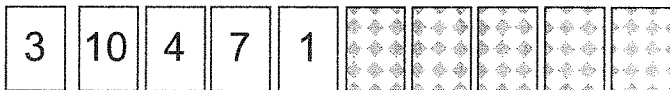
3. What is the probability that the next number is higher than 4? \_\_\_\_\_  
Show your work.

The fourth card is number 7.



4. What is the probability that the next number is lower than 7? \_\_\_\_\_  
Show your work.

The fifth card is the number 1.



When the sixth card is turned the probability that the next card is higher is the same as the probability that it is lower.

5. What must the sixth card be? \_\_\_\_\_  
Explain how you figured it out.

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