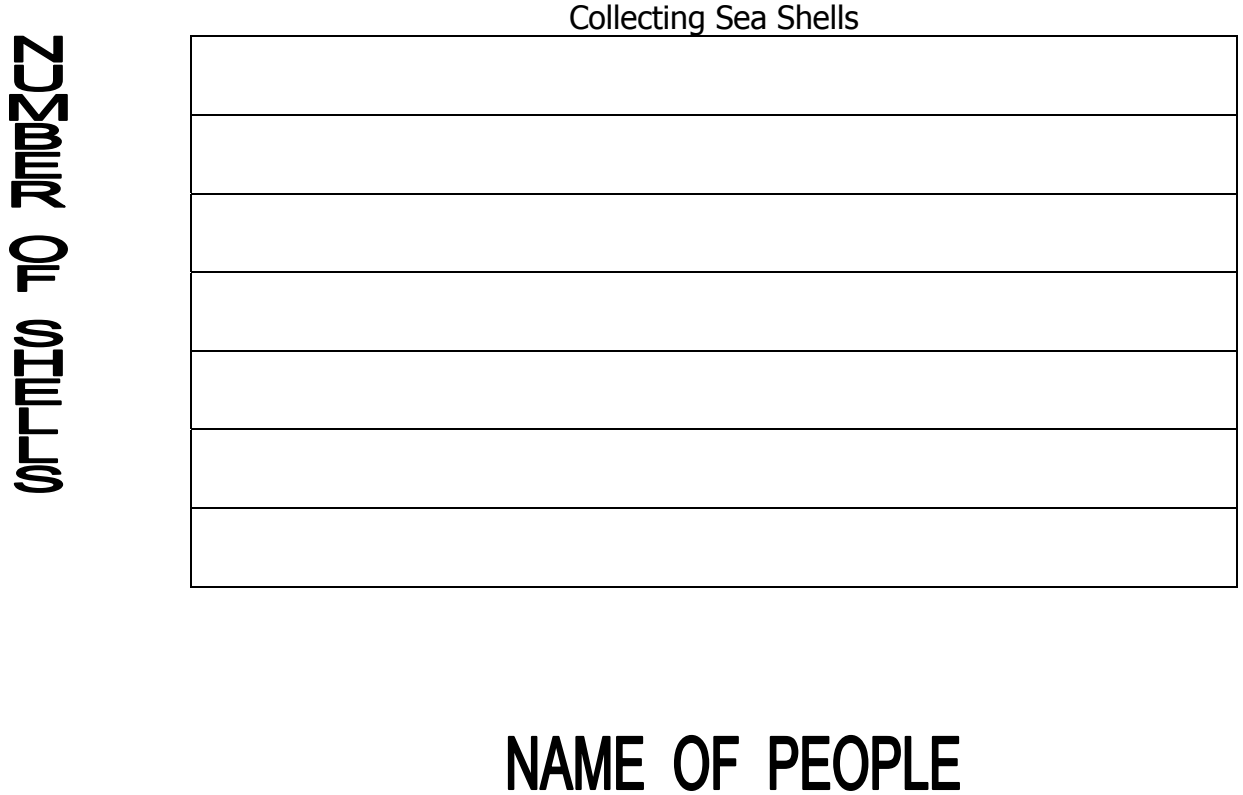
Name_____Date_____(19B)

1. Last summer 5 friends collected shells at the beach. The chart shows how many shells each friend collected.

Person	Number of Shells Collected
Michael 25	
Emily 35	
Sarah 20	
Nicholas 15	
Samantha	30

Complete the **bar graph** to show the same information. Do **not** shade the bars.



(19B)

2. The table shows what happened when students were spinning a spinner.

COLOR	NUMER OF TIMES
Red 40	
Yellow 20	
Blue 10	
Green 10	

Complete and label the **pictograph** using the same information.

_____

_____

(19A)

The table shows how a group of third and fourth graders get to school.

HOW THIRD & FOURTH GRADERS GET TO SCHOOL

	3rd Graders	4th Graders
Walk	23	39
Bus	14	12
Car	8	15

3. How many more fourth graders get to school by car than third graders do?

- ◯ 2
- ◯ 7
- ◯ 16
- ◯ 23

4. How many students do **not** walk to school?

- ◯ 66
- ◯ 62
- ◯ 51
- ◯ 49

(19A)

The chart shows the number of tickets sold for the talent show in one week.

Grade	Number of Tickets Sold
2 15	
3 67	
4 31	
5 45	

5. How many tickets were sold in all?

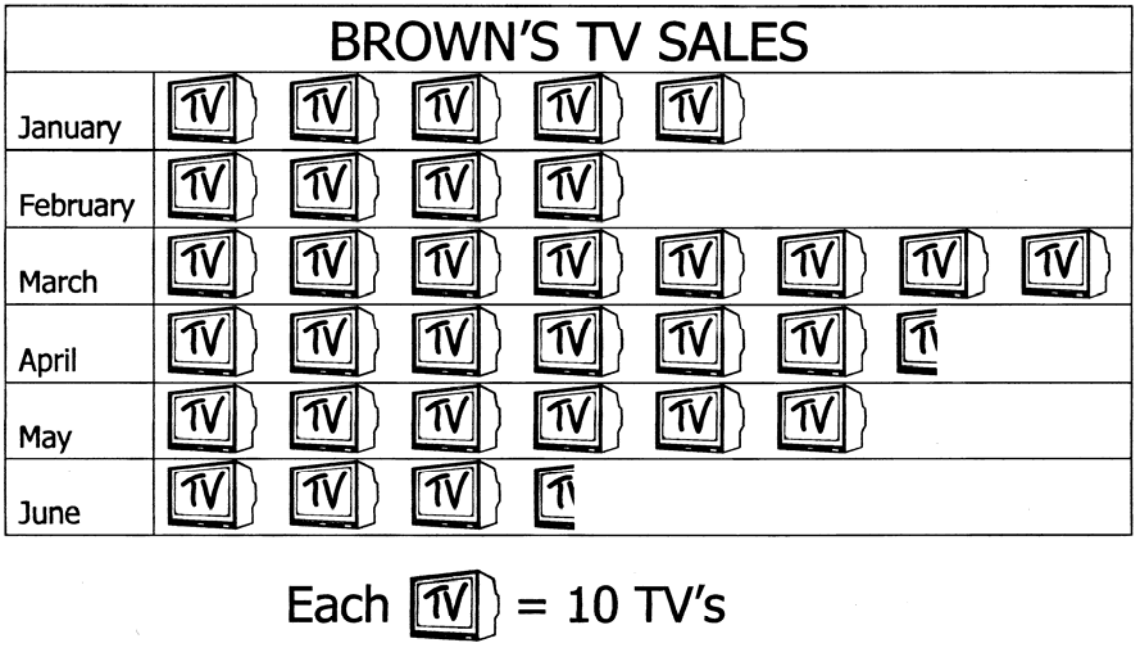
- ◯ 113
- ◯ 146
- ◯ 158
- ◯ 221

6. How many **more** tickets would Grade 2 need to sell in order to sell as many as grade 4?

- ◯ 16
- ◯ 24
- ◯ 34
- ◯ 46

(19A)

Tom Brown owns a TV store. The **pictograph** shows how many TV's he sold in six months.



7. In which month were the most TV's sold?

- ◯ March
- ◯ April
- ◯ May
- ◯ June

9. How many more TV's were sold in March than in April?

- ◯ 5
- ◯ 10
- ◯ 15
- ◯ 20

8. How many TV's were sold in April and June altogether?

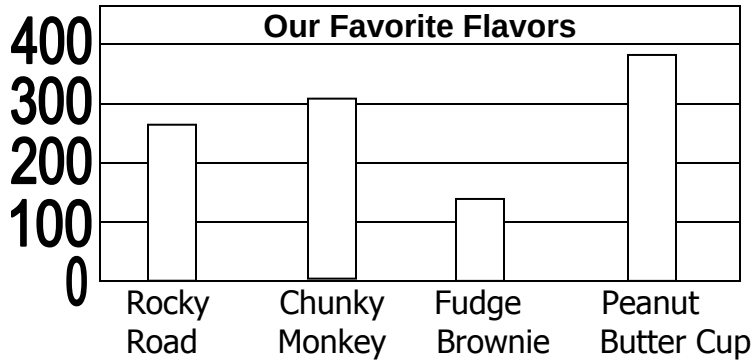
- ◯ 80
- ◯ 90
- ◯ 100
- ◯ 110

10. Which statement below is true?

- ◯ The fewest TV's were sold in February.
- ◯ The most TV's were sold in June.
- ◯ Twice as many TV's were sold in March than in February.
- ◯ More TV's were sold in June than in any other month.

(19A)

The third graders voted for their favorite flavors of ice cream. Use the chart below to answer questions 11 – 12.



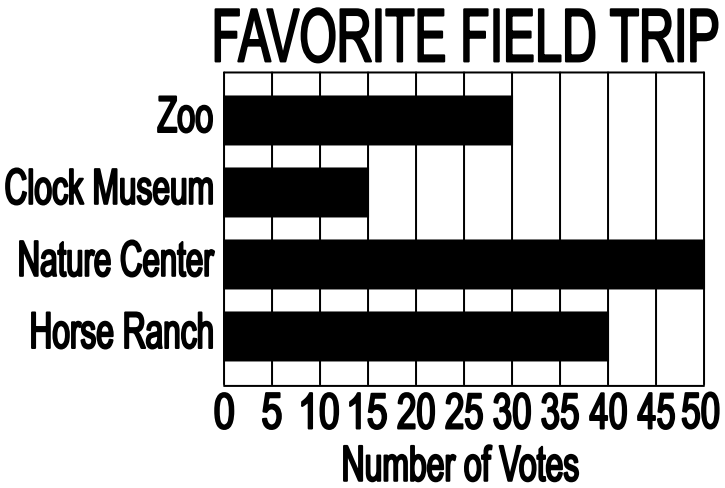
11. Which flavor of ice cream was the **most** popular?

- ○ Rocky Road
- ○ Chunky Monkey
- ○ Fudge Brownie
- ○ Peanut Butter Cup

12. Which flavor of ice cream was the **least** popular?

- ○ Rocky Road
- ○ Chunky Monkey
- ○ Fudge Brownie
- ○ Peanut Butter Cup

The fourth grade classes took a vote on their favorite place for a field trip.



13. How many places had **more** than 25 votes?

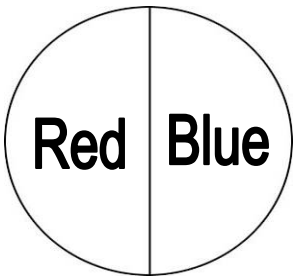
- ○ 1
- ○ 2
- ○ 3
- ○ 4

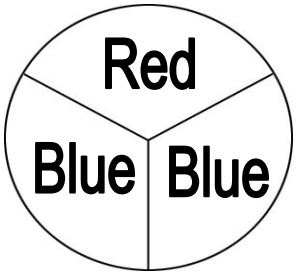
Name_____ Date_____ (21A)

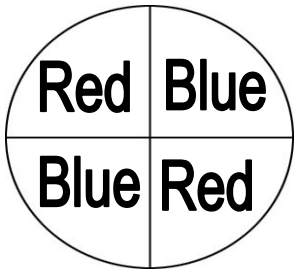
1. The table shows how many times the arrow landed on each color of a spinner.

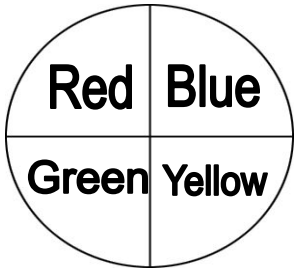
COLOR	NUMBER
red	𝍸 𝍸 III
blue	𝍸 𝍸 𝍸 𝍸 𝍸 IIII

Which spinner was most likely used to get these results?

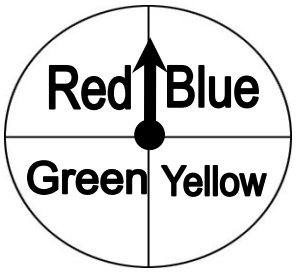
○ 

○ 

○ 

○ 

2. Sue spun the arrow 100 times on the spinner below.



Which chart shows the **most likely** result of 100 spins?

○

Red	Blue	Green	Yellow
25	50	12	13

○

Red	Blue	Green	Yellow
50	30	19	1

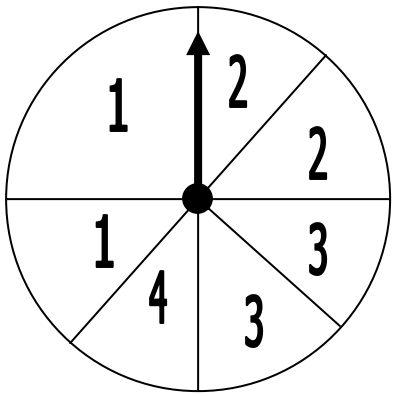
○

Red	Blue	Green	Yellow
10	10	10	70

○

Red	Blue	Green	Yellow
25	25	26	24

3. If Julia spins the spinner once, on which number is the arrow **least likely** to land?



- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4

4. Miguel had 22 red tiles, 22 blue tiles, and 22 yellow tiles in a paper bag. If he picks one tile **without looking**, which tile is he **most likely** to pick?

- ◯ a red tile
- ◯ a blue tile
- ◯ a yellow tile
- ◯ He is equally likely to pick all 3 colors.

5 Emma has 4 stickers. She has a dog sticker, a cat sticker, a bird sticker, and a frog sticker. What is the probability that Emma will pick a dog sticker **without looking**?

- ◯ 1 out of 4
- ◯ 2 out of 4
- ◯ 3 out of 4
- ◯ 4 out of 4

6. John has 4 M&M's in his hand. One is red, one is green, one is yellow, and one is blue. What is the probability that he will pick a yellow M&M **without looking**?

- ◯ $\frac{1}{4}$
- ◯ $\frac{2}{4}$
- ◯ $\frac{3}{4}$
- ◯ $\frac{4}{4}$

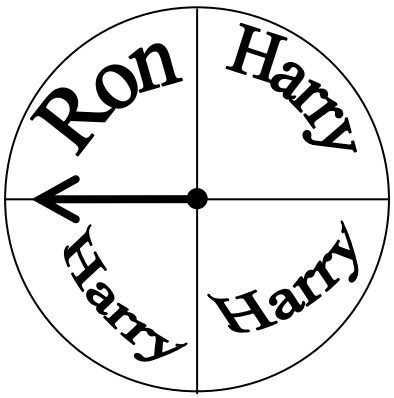
7. The first graders had 4 teddy bear counters in a paper bag. One was purple, one was pink, one was brown, and one was white. What is the probability of picking a purple teddy bear without looking?

- ◯ 2 out of 3
- ◯ 1 out of 4
- ◯ 3 out of 6
- ◯ 4 out of 8

Name_____Date_____ (25A)

Harry and Ron are playing a game with the spinner below.

A player gets one point each time the arrow lands completely inside the space that has his name.



1. Which player will probably have the lowest score? _____

Explain or show how you got your answer.

_____

_____

_____

_____

2. How could you change the game or the spinner to make this a fair game?

_____

_____

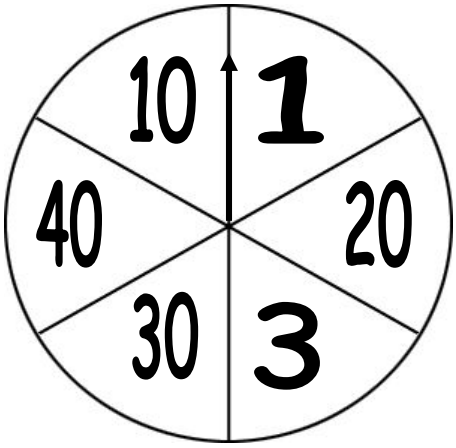
_____

_____

Name_____Date_____ (25A)

Players take turns spinning the arrow of the spinner.

- If the arrow lands inside the space with an odd number, Player 1 gets one point.
- If the arrow lands inside the space with an even number, Player 2 gets one point.



1. Will Player 1 **probably** have the highest score? _____

Why or why not? _____

_____

_____

_____

_____

2. How could you change the rules of the game or the spinner to make this a fair game? _____

_____

_____

_____

_____

_____

***Growing with Math*: Aligned with Grade 4 CMT (4th Generation)**

March 27, 2006

Topic 16: Using Data and Making Predictions

- 19B: Create bar graphs from data in charts and tables.
- 19B: Create pictographs from data in charts and tables.

- 19A: Identify correct information from pictographs.
- 19A: Identify correct information from bar graphs.
- 19A: Identify correct information from tables.
- 19A: Identify correct information from charts.

- 21A: Identify solutions to problems involving elementary notions of probability

- 25A: Solve extended numerical and statistical problems.
  - **Math Assessment III – will have a Probability Problem**

Please Note: Topic 16 calls for children to create **line plots**. Line plots are not on the CMT, but they are part of the Connecticut Math. Framework Expected Performances for Grade 3.

ANSWERS

1)Vertical Scale needed – counting by 10s or by 5s would work well – Number the lines, not the spaces – include Zero

2) Names must be written along Horizontal Scale at bottom of Bar Graph.

3) 5 Bars must be drawn to exact height

4) Do NOT take off points if bars are shaded.

1. Last summer 5 friends collected shells at the beach. The chart shows how many shells each friend collected.

Complete the **bar graph** to show the same information. Do **not** shade the bars.

Person	Number of Shells Collected
Michael 25	
Emily 35	
Sarah 20	
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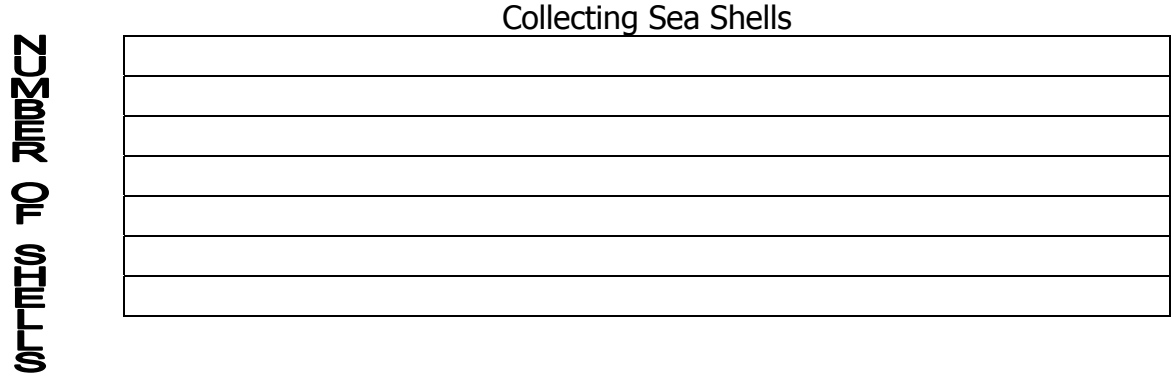

(19B)

2. The table shows what happened when students were spinning a spinner.

COLOR	NUMER OF TIMES
Red 40	
Yellow 20	
Blue 10	
Green 10	

Complete and label the **pictograph** using the same information.

1) Names of Colors Go on each Line

3) Correct number of symbols go on each line

2) Key and Symbol Go Here

_____

Title Could Go Here: COLORS

(19A)

The table shows how a group of third and fourth graders get to school.

HOW THIRD & FOURTH GRADERS GET TO SCHOOL

	3rd Graders	4th Graders
Walk	23	39
Bus	14	12
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3. How many more fourth graders get to school by car than third graders do?

- ◯ 2
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- ◯ 16
- ◯ 23

4. How many students do **not** walk to school?

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- ◯ 51
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The chart shows the number of tickets sold for the talent show in one week.

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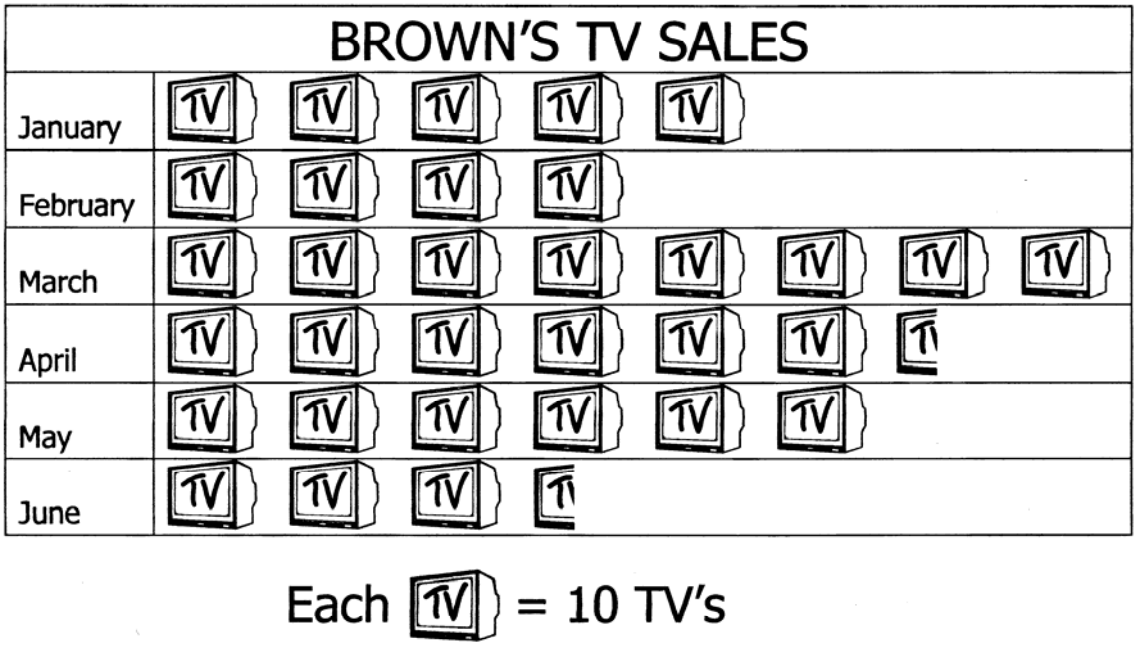

7. In which month were the most TV's sold?

- ◯ March ***
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- ◯ May
- ◯ June

8. How many TV's were sold in April and June altogether?

- ◯ 80
- ◯ 90
- ◯ 100 ***
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9. How many more TV's were sold in March than in April?

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(19A)

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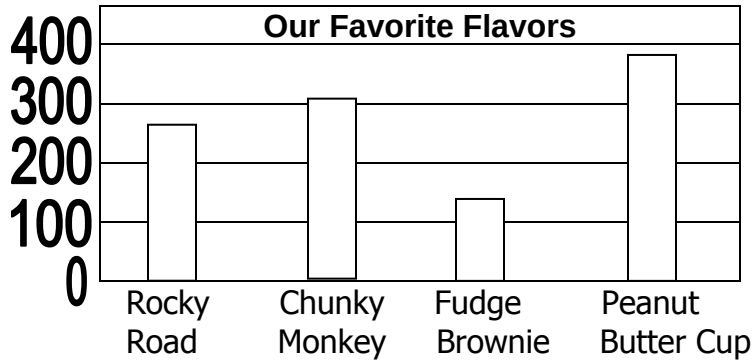


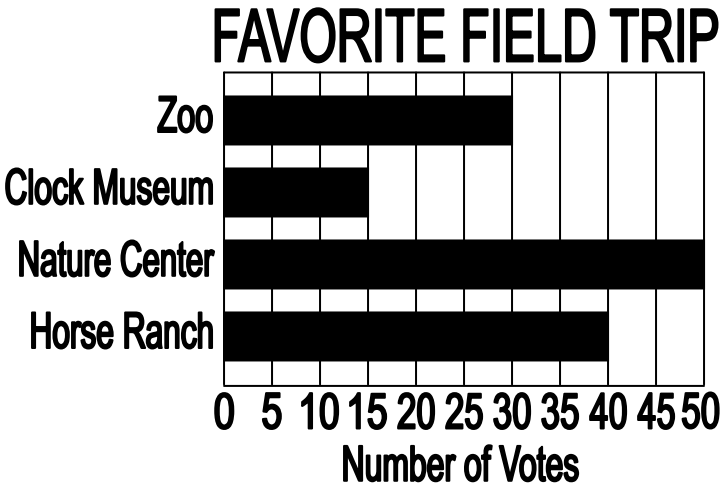
11. Which flavor of ice cream was the **most** popular?

- ○ Rocky Road ***
- ○ Chunky Monkey
- ○ Fudge Brownie
- ○ Peanut Butter Cup

12. Which flavor of ice cream was the **least** popular?

- ○ Rocky Road
- ○ Chunky Monkey
- ○ Fudge Brownie ***
- ○ Peanut Butter Cup

The fourth grade classes took a vote on their favorite place for a field trip.



13. How many places had **more** than 25 votes?

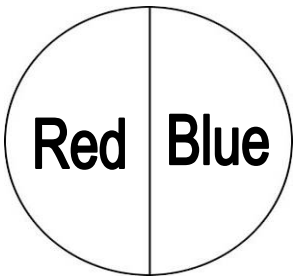
- ○ 1
- ○ 2
- ○ 3 ***
- ○ 4

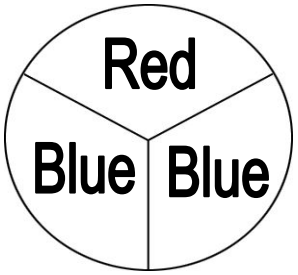
Name_____ Date_____ (21A)

1. The table shows how many times the arrow landed on each color of a spinner.

COLOR	NUMBER
red	𝍸 𝍸 III
blue	𝍸 𝍸 𝍸 𝍸 𝍸 IIII

Which spinner was most likely used to get these results?

○ 

○ 

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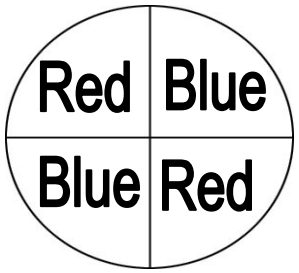
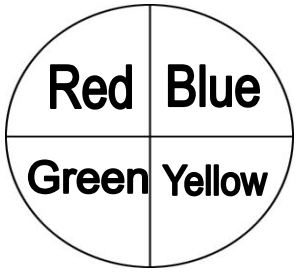
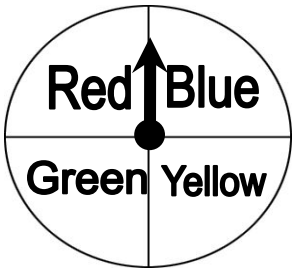
○ 

○ 

2. Sue spun the arrow 100 times on the spinner below.



Which chart shows the **most likely** result of 100 spins?

○

Red	Blue	Green	Yellow
25	50	12	13

○

Red	Blue	Green	Yellow
50	30	19	1

○

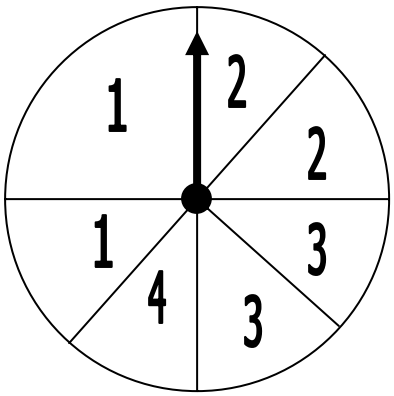
Red	Blue	Green	Yellow
10	10	10	70

○

Red	Blue	Green	Yellow
25	25	26	24

***

3. If Julia spins the spinner once, on which number is the arrow **least likely** to land?



- ○ 1
- ○ 2
- ○ 3
- ○ 4 ***

4. Miguel had 22 red tiles, 22 blue tiles, and 22 yellow tiles in a paper bag. If he picks one tile **without looking**, which tile is he **most likely** to pick?

- ○ a red tile
- ○ a blue tile
- ○ a yellow tile
- ○ He is equally likely to pick all 3 colors. ***

5 Emma has 4 stickers. She has a dog sticker, a cat sticker, a bird sticker, and a frog sticker. What is the probability that Emma will pick a dog sticker **without looking**?

- ○ 1 out of 4 ***
- ○ 2 out of 4
- ○ 3 out of 4
- ○ 4 out of 4

6. John has 4 M&M's in his hand. One is red, one is green, one is yellow, and one is blue. What is the probability that he will pick a yellow M&M **without looking**?

- ○ $\frac{1}{4}$ ***
- ○ $\frac{2}{4}$
- ○ $\frac{3}{4}$
- ○ $\frac{4}{4}$

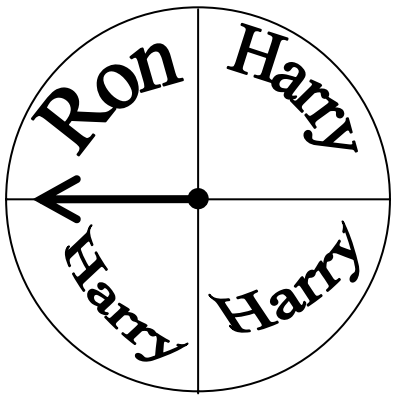
7. The first graders had 4 teddy bear counters in a paper bag. One was purple, one was pink, one was brown, and one was white. What is the probability of picking a purple teddy bear without looking?

- ○ 2 out of 3
- ○ 1 out of 4 ***
- ○ 3 out of 6
- ○ 4 out of 8

Name_____Date_____ (25A)

Harry and Ron are playing a game with the spinner below.

A player gets one point each time the arrow lands completely inside the space that has his name.



1. Which player will probably have the lowest score? _Ron_____
Explain or show how you got your answer.

POSSIBLE EXPLANATIONS:

- Harry has 3 of the 4 equal parts of the circle; Ron has only 1.
- Harry's part of the circle is much larger than Ron's part
- Ron's part of the circle is much smaller than Harry's part.
- Harry has $\frac{3}{4}$ of the circle. Ron has only $\frac{1}{4}$ of the circle
- Harry has 3 chances to get a point each time, and Ron has only 1 chance.

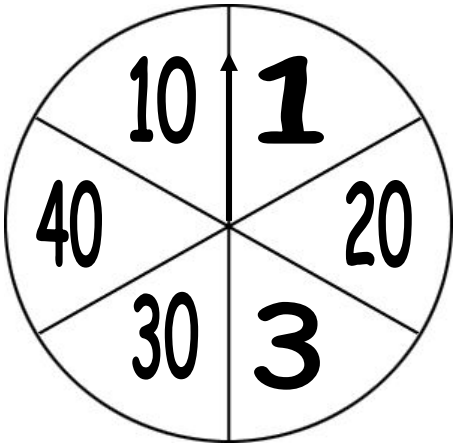
2. How could you change the game or the spinner to make this a fair game?

- Change one of Harry's sections on the circle to Ron. Then they both have half the circle each (or they both have equal parts of the circle)
- Change the number of sections to anything that would give Harry and Ron equal parts of the circle.
- Change the rules so that Ron gets 3 points and Harry gets 1 point when the arrow lands on their names.

Name_____Date_____ (25A)

Players take turns spinning the arrow of the spinner.

- If the arrow lands inside the space with an odd number, Player 1 gets one point.
- If the arrow lands inside the space with an even number, Player 2 gets one point.



1. Will Player 1 **probably** have the highest score? No

Why or why not?

- There are only 2 odd numbers on the spinner and 4 even numbers

2. How could you change the rules of the game or the spinner to make this a fair game?

- Either change the numbers on the spinner to have an equal number of odd and even numbers or change the spinner to give equal parts to odd and even numbers (For example, add two more sections for a total of 8 **equal** sections, and write odd numbers in the two new sections.