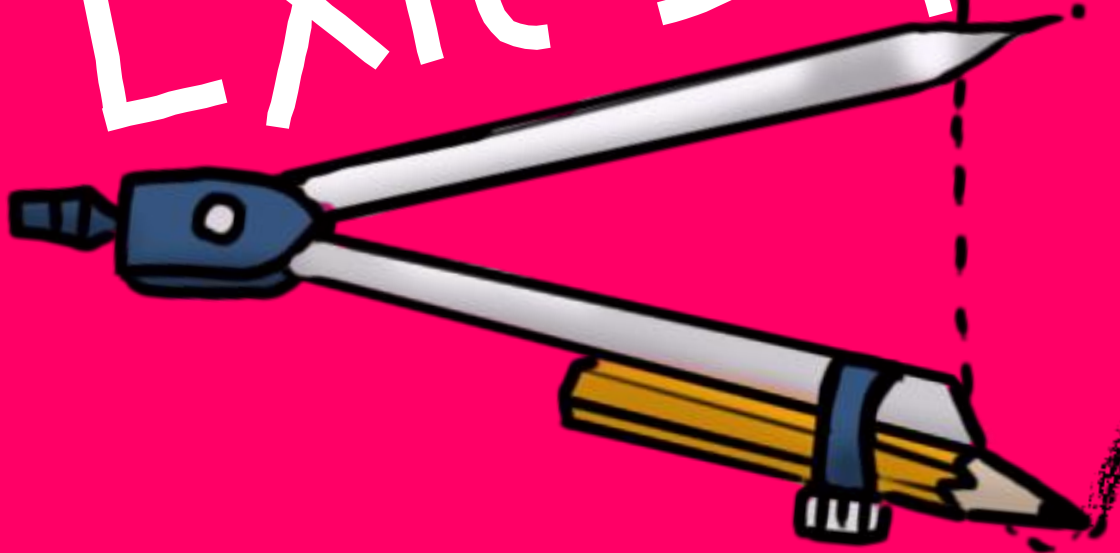


# 6<sup>th</sup> Grade Math

## Probability



FREE  
Exit Slips



Created by Alex O'Connor

# Instructions and Tips

## Includes:

- 4 exit slip questions for 6 different topics relating to probability.
- Answer key
- Teacher Guide – includes all of the problems listed back to back, with answers included.

## Instructions & Tips:

- Four each topic, the four questions increase in difficulty (1 being the easiest and 4 being the most difficult).
- These are intended for use as either a daily check (mini-quiz) or exit slip (check for understanding before students leave class).
- For those of you who have downloaded my Math Task Cards and Math Enrichment Task Cards, you may notice these are a similar format. Following is a brief summary of how I use these products in my 6<sup>th</sup> grade math workshop, however feel free to use these however you would like with your students!
  - Math Task Cards: Used at front table with each small group to help practice the new concept.
  - Math Enrichment Task Cards: Used at front table with students who quickly understand and finish the Math Task Card problems.
  - Exit Slips: Used as a whole class "Daily Check" the day after introducing a topic.
- I hope your students enjoy these and you find them useful in your classroom! Check out my blog for more middle school math ideas!

[www.middleschoolmathman.blogspot.com](http://www.middleschoolmathman.blogspot.com)

Probability of Simple Events

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- (4) Mrs. Randle has three spots in her room that she draws names to see who gets to sit in that spot. She has an office chair, a bean bag, and a table spot. If there are 4 students left to pick from, in how many different ways can she pick students to sit in the three spots?

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*The Fundamental Counting Principle*

(1) Elliot rolled a six-sided die two times in a row. How many different ways could he roll?

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Probability of Independent Events

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- (2) Find the probability of rolling an even number on a 10-sided die, flipping a coin on tails, and then rolling a six on a 6-sided die.
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Probability of Dependent Events

A bag of counters has 2 red, 2 blue, 3 black, and 3 white counters.

- (1) Find the probability of picking a red counter, not replacing it, and then picking the other red counter.
- (2) Find the probability of picking a white counter, not replacing it, and then picking a black counter.
- (3) Find the probability of picking a red counter, a blue counter, and then a black counter, without replacing any of the counters as you draw them.
- (4) Natalya picked a red counter from the bag and left it on the counter. She then added two green counters. She took two more picks from the bag, without replacing any counters, and picked the two greens. Find the probability of her picking the red and two greens as described.

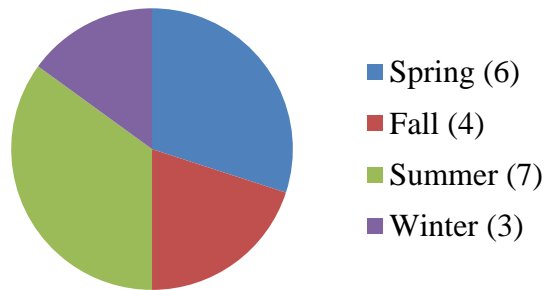
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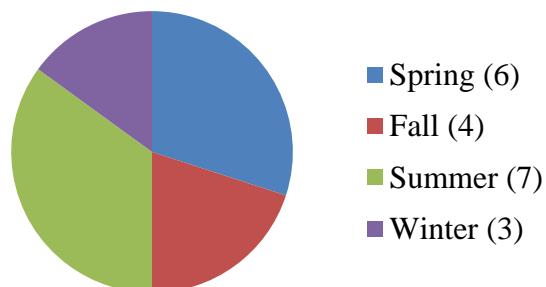
*Favorite Season*



- (1) What fraction of the students chose summer as their favorite season?
- (2) Based on the survey, in a group of 100 people, how many would choose summer?
- (3) Based on the survey, in a group of 250 people, how many would choose spring?
- (4) The same question is asked to a group of 440 people. Based on the survey, how many more people would you expect to say summer is their favorite season than spring?

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Probability of Simple Events (ANSWER KEY)

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- (1) What is the probability of picking a green marble from the bag?

$$5/16$$

- (2) What is the probability of picking a black marble from the bag?

$$6/16 = 3/8$$

- (3) What is the probability of picking a color that isn't black?

$$10/16 = 5/8$$

- (4) Carson decides to add 4 red marbles to the bag. How much did he increase his chances of picking a red marble? Write your answer as a fraction, decimal, or percent.

*His original probability of picking red was  $3/16 = 0.1875 = 18.75\%$ .*

*After adding the counters his probability of picking red is  $7/20 = 0.35 = 35\%$*

*He increased his odds of picking red by 16.25%.*

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(1) Belle flips a coin two times in a row. How many different combinations can she flip?

*4 combinations*

(2) Eli spins two spinners that are each divided into four sections. How many different combinations can he spin?

*16 combinations*

(3) Kate rolls a six-sided die and then flips two coins. How many different combinations are there?

*24 combinations*

(4) Mrs. Randle has three spots in her room that she draws names to see who gets to sit in that spot. She has an office chair, a bean bag, and a table spot. If there are 4 students left to pick from, in how many different ways can she pick students to sit in the three spots?

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The Fundamental Counting Principle (ANSWER KEY)

(1) Elliot rolled a six-sided die two times in a row. How many different ways could he roll?

*36 possible combinations*

(2) Beth rolls a 16-sided die and then spins a spinner that has 8 sections. How many different combinations can she get?

*128 combinations*

(3) Chase rolls an 8-sided die, then flips a coin, and then spins a spinner that has 9 sections. How many different ways can he do these three things?

*144 combinations*

(4) Molly claims that it isn't that hard to flip a coin 12 times in a row on heads, without flipping tails once. How many different ways could she flip the 12 coins?

*She has a 1 in 4,096 chance of flipping 12 straight heads.*

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$$1/10$$

(3) Find the probability of picking a red counter, a blue counter, and then a black counter, without replacing any of the counters as you draw them.

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(4) Natalya picked a red counter from the bag and left it on the counter. She then added two green counters. She took two more picks from the bag, without replacing any counters, and picked the two greens. Find the probability of her picking the red and two greens as described.

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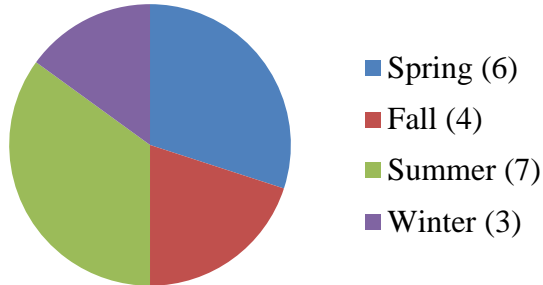
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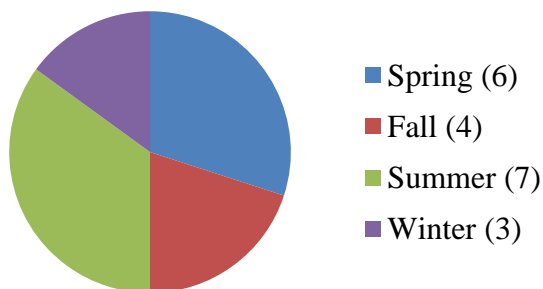
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*154 - 132 = 22 more people would choose summer*

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