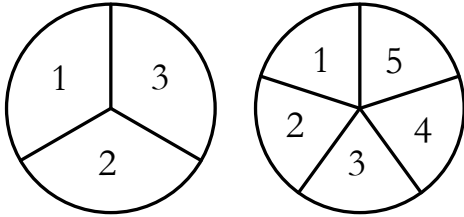


# Whatcom County Math Championship – 2017

## Probability + Statistics – 4<sup>th</sup> Grade

1. Anya has two spinners, with each space the same area. If she adds the result of both spinners, what is the probability that her answer will be even? **Write the answer as a reduced fraction.**

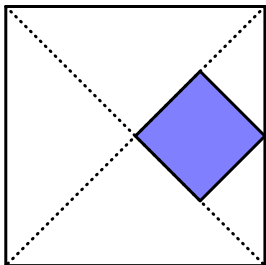


2. Jen buys a bag of donut holes from Starship Donuts; in the bag are 4 chocolate holes, 3 blueberry holes, 6 glazed holes and 5 cinnamon holes. If Jen reaches in and grabs a donut hole at random, what is the probability that she will get a blueberry donut? **Write the answer as a reduced fraction.**

3. What is the positive difference between the average and the median of the first five prime numbers?

4. Sanjana rides to school 30% of the days for the first 30 days of school. During the next 30 days, how many days would she have to ride for her to raise this to 40% of the days of school?

5. What is the probability that a dart randomly thrown at the large square will hit the shaded section? **Write the answer as a reduced fraction.**



6. The difference between two numbers is 6 and the average of the two numbers is 16. What is the smaller of the two numbers?

7. A palindrome is a number, like 535, that remains the same when its digits are reversed. How many 3-digit palindromes are there?

8. A standard deck of cards has 52 cards, with 4 suits (spades, clubs, diamonds and hearts). Each suit has 13 cards, from ace through 10, jack, queen and king. If aces are worth 1 and face cards 10 each, what is the probability that if you draw a card at random, it will be worth more than 5? **Write the answer as a reduced fraction.**

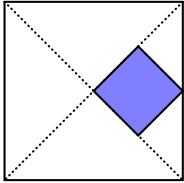
9. How many different ways can you arrange the letters in the word LETTERS?

10. For a set of five whole numbers, the average is 4, the mode is 1, and the median is 5. What is the largest number in the set?

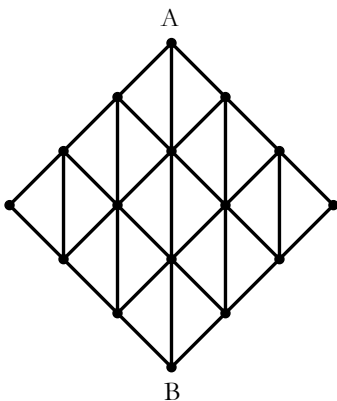
# Whatcom County Math Championship – 2017

## Probability + Statistics – 5<sup>th</sup> Grade

1. Sanjana rides to school 30% of the days for the first 30 days of school. During the next 30 days, how many days would she have to ride for her to raise this to 40% of the days of school?
2. What is the probability that a dart randomly thrown at the large square will hit the shaded section? **Write the answer as a reduced fraction.**



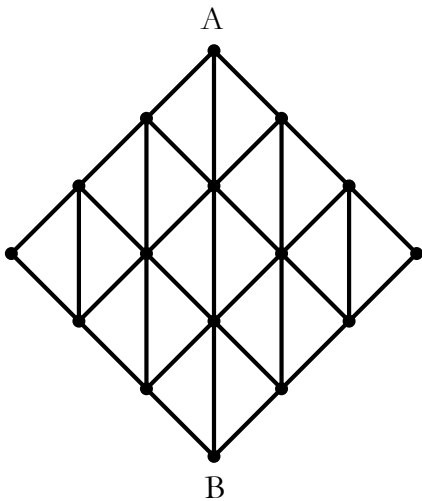
3. The difference between two numbers is 6 and the average of the two numbers is 16. What is the smaller of the two numbers?
4. A palindrome is a number, like 535, that remains the same when its digits are reversed. How many 3-digit palindromes are there?
5. A standard deck of cards has 52 cards, with 4 suits (spades, clubs, diamonds and hearts). Each suit has 13 cards, from ace through 10, jack, queen and king. If aces are worth 1 and face cards 10 each, what is the probability that if you draw a card at random, it will be worth more than 5? **Write the answer as a reduced fraction.**
6. How many different ways can you arrange the letters in the word LETTERS?
7. For a set of five whole numbers, the average is 4, the mode is 1, and the median is 5. What is the largest number in the set?
8. A digital clock using 12-hour time shows the time in the form HH:MM. If a time between 6:00 am and 2:59 pm is chosen at random, what is the probability that HH is greater than MM? **Write the answer as a reduced fraction.**
9. A standard six-sided die has each number replaced by the first 6 prime numbers. If the die is rolled twice and the results are added together, what is the probability that the result will be odd? **Write the answer as a reduced fraction.**
10. Sam is walking from point A to point B, and can only move down. How many different ways can they take to move from A to B?



# Whatcom County Math Championship – 2017

## Probability + Statistics – 6<sup>th</sup> Grade

1. A palindrome is a number, like 535, that remains the same when its digits are reversed. How many 3-digit palindromes are there?
2. A standard deck of cards has 52 cards, with 4 suits (spades, clubs, diamonds and hearts). Each suit has 13 cards, from ace through 10, jack, queen and king. If aces are worth 1 and face cards 10 each, what is the probability that if you draw a card at random, it will be worth more than 5? **Write the answer as a reduced fraction.**
3. How many different ways can you arrange the letters in the word LETTERS?
4. For a set of five whole numbers, the average is 4, the mode is 1, and the median is 5. What is the largest number in the set?
5. A digital clock using 12-hour time shows the time in the form HH:MM. If a time between 6:00 am and 2:59 pm is chosen at random, what is the probability that HH is greater than MM? **Write the answer as a reduced fraction.**
6. A standard six-sided die has each number replaced by the first 6 prime numbers. If the die is rolled twice and the results are added together, what is the probability that the result will be odd? **Write the answer as a reduced fraction.**
7. Sam is walking from point A to point B, and can only move down. How many different ways can they take to move from A to B?

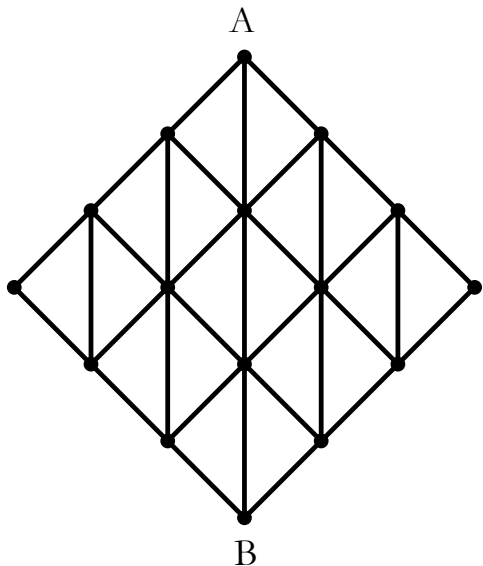


8. If  $m = \frac{45}{2n - 1}$  and both  $m$  and  $n$  are positive whole numbers, what is the average value of all possible values of  $n$ ?
9. When two standard 6-sided dice are rolled, what is the probability that the results will be consecutive? **Write the answer as a reduced fraction.**
10. On the planet Noux, the alphabet has only 6 letters, and every word in the Nouxian language has no more than 4 letters in it. How many words are possible? (A word can use a letter more than once, but 0 letters does not count as a word.)

# Whatcom County Math Championship – 2017

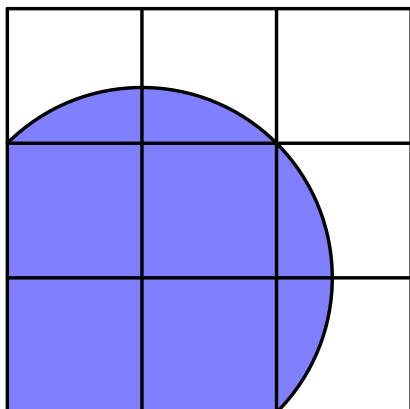
## Probability + Statistics – 7<sup>th</sup> + 8<sup>th</sup> Grade

1. For a set of five whole numbers, the average is 4, the mode is 1, and the median is 5. What is the largest number in the set?
2. A digital clock using 12-hour time shows the time in the form HH:MM. If a time between 6:00 am and 2:59 pm is chosen at random, what is the probability that HH is greater than MM? **Write the answer as a reduced fraction.**
3. A standard six-sided die has each number replaced by the first 6 prime numbers. If the die is rolled twice and the results are added together, what is the probability that the result will be odd? **Write the answer as a reduced fraction.**
4. Sam is walking from point A to point B, and can only move down. How many different ways can they take to move from A to B?



5. If  $m = \frac{45}{2n - 1}$  and both  $m$  and  $n$  are positive whole numbers, what is the average value of all possible values of  $n$ ?
6. When two standard 6-sided dice are rolled, what is the probability that the results will be consecutive? **Write the answer as a reduced fraction.**
7. On the planet Noux, the alphabet has only 6 letters, and every word in the Nouxian language has no more than 4 letters in it. How many words are possible? (A word can use a letter more than once, but 0 letters does not count as a word.)

8. What is the probability that a dart randomly thrown at the large square will hit the shaded section? **Round your answer to the nearest hundredth.**



9. How many different triangles can you make from the vertices of a regular octagon?

10. A standard deck of cards has 52 cards, with 4 suits (spades, clubs, diamonds and hearts). Each suit has 13 cards, from ace through 10, jack, queen and king. If aces are worth 1, number cards are worth their number, and face cards 10 each, what is the probability that if you draw two cards at random (without replacement), they will add to 15? **Write the answer as a reduced fraction.**