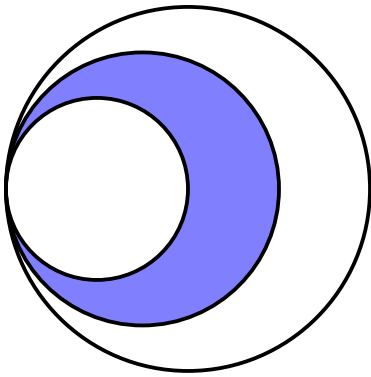# Whatcom County Math Championship – 2019
Stats + Probability – 4th Grade

1. A six-sided die is thrown. What is the probability that the result is a factor of 6? **Write the answer as a reduced fraction.**

2. What is the positive difference between the average and the median of the first 5 square numbers?

3. Sophia rolls two fair 10 – sided dice and adds the results together. What is the probability that she will get a 6? **Write the answer as a reduced fraction.**

4. Ollie is a playing a game with a 6-sided die. To win, they need to get an odd number on the first roll and an even number on the second roll. What is the probability of winning this game? **Write the answer as a reduced fraction.**

5. Over the weekend, Aaron beat Alexander at Cloverwatch in 40% of their matches. Alex won 12 matches. How many matches did Aaron win?

6. The difference of two numbers is 8, and the average is 28. What is the greater of the two numbers?

7. The circles have radii of 2 and 3 and 4. What is the probability that a point randomly chosen in the biggest circle will be in the shaded area? **Write your answer as a decimal rounded to the hundredths place.**
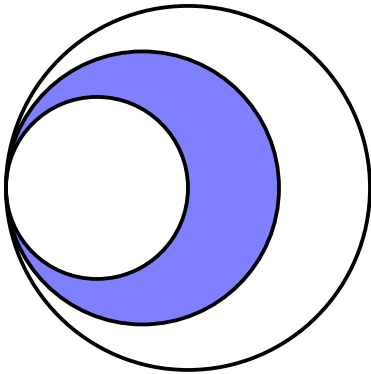

8. If a 2 digit number is chosen at random, what is the probability that it is not divisible by 2 or 3 or 5? **Write the answer as a reduced fraction.**

9. Ana and Bob each rolled a standard 6 - sided die. What is the probability that Ana's number is larger than Bob's? **Write the answer as a reduced fraction.**

10. In a standard deck of 52 cards, if cards are worth their number (A = 1, J = 11, Q = 12, K = 13), and two cards are drawn at random, what is the most likely sum?

Whatcom County Math Championship – 2019
Stats + Probability – 5th Grade

1. Ollie is a playing a game with a 6-sided die. To win, they need to get an odd number on the first roll and an even number on the second roll. What is the probability of winning this game? **Write the answer as a reduced fraction.**

2. Over the weekend, Aaron beat Alexander at Cloverwatch in 40% of their matches. Alex won 12 matches. How many matches did Aaron win?

3. The difference of two numbers is 8, and the average is 28. What is the greater of the two numbers?

4. The circles have radii of 2 and 3 and 4. What is the probability that a point randomly chosen in the biggest circle will be in the shaded area? **Write your answer as a decimal rounded to the hundredths place.**
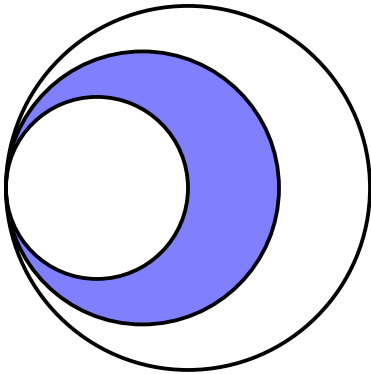

5. If a 2 digit number is chosen at random, what is the probability that it is not divisible by 2 or 3 or 5? **Write the answer as a reduced fraction.**

6. Ana and Bob each rolled a standard 6 - sided die. What is the probability that Ana's number is larger than Bob's? **Write the answer as a reduced fraction.**

7. In a standard deck of 52 cards, if cards are worth their number (A = 1, J = 11, Q = 12, K = 13), and two cards are drawn at random, what is the most likely sum?

8. If you choose a number from 1 – 50 at random, what is the probability it will be prime? **Write the answer as a reduced fraction.**

9. Wil rolls 2 standard 6 – sided dice. What is the probability that the two results will differ by 2? **Write the answer as a reduced fraction.**

10. How many coins would you have to flip for the probability of all of them landing on heads was less than one in a thousand?

1. The circles have radii of 2 and 3 and 4. What is the probability that a point randomly chosen in the biggest circle will be in the shaded area? **Write your answer as a decimal rounded to the hundredths place.**

2. If a 2 digit number is chosen at random, what is the probability that it is not divisible by 2 or 3 or 5? **Write the answer as a reduced fraction.**

3. Ana and Bob each rolled a standard 6 - sided die. What is the probability that Ana's number is larger than Bob's? **Write the answer as a reduced fraction.**

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7. How many coins would you have to flip for the probability of all of them landing on heads was less than one in a thousand?

8. A jar has 10 green marbles, 10 purple marbles and 10 blue marbles. If I cannot see the marbles, what is the fewest number of marbles I must pick without replacement in to order to guarantee that three of the marbles I pick are blue?

9. A circular keyring has four keys on it. How many different ways can the keys be arranged?

10. How many distinguishable ways can a pair of six-sided dice turn up?

Whatcom County Math Championship – 2019
Stats + Probability – 7th +8th Grade

1. In a standard deck of 52 cards, if cards are worth their number (A = 1, J = 11, Q = 12, K = 13), and two cards are drawn at random, what is the most likely sum?

2. If you choose a number from 1 – 50 at random, what is the probability it will be prime? **Write the answer as a reduced fraction.**

3. Wil rolls 2 standard 6 – sided dice. What is the probability that the two results will differ by 2? **Write the answer as a reduced fraction.**

4. How many coins would you have to flip for the probability of all of them landing on heads was less than one in a thousand?

5. A jar has 10 green marbles, 10 purple marbles and 10 blue marbles. If I cannot see the marbles, what is the fewest number of marbles I must pick without replacement in to order to guarantee that three of the marbles I pick are blue?

6. A circular keyring has four keys on it. How many different ways can the keys be arranged?

7. How many distinguishable ways can a pair of six-sided dice turn up?

8. What is the probability that a point randomly chosen in the square will be in the shaded area? **Write your answer as a decimal rounded to the hundredths place.**
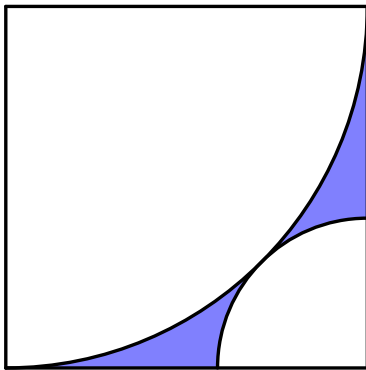
9. If a 3 digit number is chosen at random, what is the probability that it is not divisible by 2 or 3 or 5? **Write the answer as a reduced fraction.**

10. Shuri's family drove to the beach 200 kilometers away at a speed of 80 kilometers per hour. What is the largest whole number average speed they could have driven for the entire trip?