Whatcom County Math Championship – 2012
Probability + Statistics – 4th Grade

1. Sunny's sock drawer has 3 blue socks, 6 black socks, 5 rainbow socks, and 7 plaid socks. Sunny's bedroom is dark, and she pulls out one sock without being able to see its color. What is the probability that she pulled out a plaid sock? **Write the answer as a reduced fraction.**

2. If Basho flips a penny and dime, what is the probability that he will get a head on one coin and a tail on the other? **Write the answer as a reduced fraction.**

3. 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 you draw a card at random, what is the probability of drawing a 5 or 6? **Write the answer as a reduced fraction.**

4. The product of two numbers is 48, and their average is 8. Find the greater of these two numbers.

5. If you choose a number that is from 1 through 50 at random, what is the probability you will get a number divisible by 3? **Write the answer as a reduced fraction.**

6. The mean, median and mode of these five numbers are all the same; what number must ⊗ be?

18 17 16 21 ⊗

7. The average of 5 numbers is 32. If two of the numbers are removed, then the average is 30. What is the sum of the two numbers removed?

8. What is the average (arithmetic mean) of all the positive two-digit multiples of 4?

9. If Lucy rolls 4 fair six – sided dice and adds the results, what result is the most likely to come up?

10. Eva has an ice cream cone with four scoops of ice cream on it: strawberry, strawberry, chocolate and vanilla. If the scoops were placed on the cone randomly, what is the probability that she will eat the vanilla scoop first and a strawberry scoop last ? **Write the answer as a reduced fraction.**

Whatcom County Math Championship – 2012
Probability + Statistics – 5th Grade

1. The product of two numbers is 48, and their average is 8. Find the greater of these two numbers.

2. If you choose a number that is from 1 through 50 at random, what is the probability you will get a number divisible by 3? **Write the answer as a reduced fraction.**

3. The mean, median and mode of these five numbers are all the same; what number must ⊗ be?

18 17 16 21 ⊗

4. The average of 5 numbers is 32. If two of the numbers are removed, then the average is 30. What is the sum of the two numbers removed?

5. What is the average (arithmetic mean) of all the positive two-digit multiples of 4?

6. If Lucy rolls 4 fair six – sided dice and adds the results, what result is the most likely to come up?

7. Eva has an ice cream cone with four scoops of ice cream on it: strawberry, strawberry, chocolate and vanilla. If the scoops were placed on the cone randomly, what is the probability that she will eat the vanilla scoop first and a strawberry scoop last ? **Write the answer as a reduced fraction.**

8. A jar contains 3 strawberry jellybeans, 4 orange jellybeans and 2 lemon jellybeans. Sam draws a jellybean from the jar, and then Mary draws one from those remaining. What is the probability that Mary draws a strawberry jellybean? **Write the answer as a reduced fraction.**

9. If you subtract the median of the first 10 prime numbers from the average of those numbers, what is the result? **Round your answer to the nearest tenth.**

10. If Eleanor rolls two fair **4** –sided dice (numbered 1, 2, 3, 4) and **multiplies** the results, what is the probability that they answer will be evenly divisible by 4? **Write the answer as a reduced fraction.**

Whatcom County Math Championship – 2012
Probability + Statistics – 6th Grade

1. The average of 5 numbers is 32. If two of the numbers are removed, then the average is 30. What is the sum of the two numbers removed?

2. What is the average (arithmetic mean) of all the positive two-digit multiples of 4?

3. If Lucy rolls 4 fair six – sided dice and adds the results, what result is the most likely to come up?

4. Eva has an ice cream cone with four scoops of ice cream on it: strawberry, strawberry, chocolate and vanilla. If the scoops were placed on the cone randomly, what is the probability that she will eat the vanilla scoop first and a strawberry scoop last ? **Write the answer as a reduced fraction.**

5. A jar contains 3 strawberry jellybeans, 4 orange jellybeans and 2 lemon jellybeans. Sam draws a jellybean from the jar, and then Mary draws one from those remaining. What is the probability that Mary draws a strawberry jellybean? **Write the answer as a reduced fraction.**

6. If you subtract the median of the first 10 prime numbers from the average of those numbers, what is the result? **Round your answer to the nearest tenth.**

7. If Eleanor rolls two fair **4** –sided dice (numbered 1, 2, 3, 4) and **multiplies** the results, what is the probability that they answer will be evenly divisible by 4? **Write the answer as a reduced fraction.**

8. Sunny's sock drawer has 4 blue socks and 6 black socks. Sunny's bedroom is dark, and she pulls out two socks without being able to see their colors. What is the probability that both socks match? **Write the answer as a reduced fraction.**

9. If you choose a whole number between 1 and 50 at random, what is the probability you will get a number divisible by 3 or 5? **Write the answer as a reduced fraction.**

10. As the minute hand of a clock travels around the face, it passes 12 whole numbers, starting with 1. If **n** is the number the minute hand is on, and **m** is the average (arithemetic mean) of all of the numbers that the minute hand has passed since it started, at what number on the clock is **n = m + 4**?

Whatcom County Math Championship – 2012
Probability + Statistics – 7th and 8th Grade

1. Eva has an ice cream cone with four scoops of ice cream on it: strawberry, strawberry, chocolate and vanilla. If the scoops were placed on the cone randomly, what is the probability that she will eat the vanilla scoop first and a strawberry scoop last ? **Write the answer as a reduced fraction.**

2. A jar contains 3 strawberry jellybeans, 4 orange jellybeans and 2 lemon jellybeans. Sam draws a jellybean from the jar, and then Mary draws one from those remaining. What is the probability that Mary draws a strawberry jellybean? **Write the answer as a reduced fraction.**

3. If you subtract the median of the first 10 prime numbers from the average of those numbers, what is the result? **Round your answer to the nearest tenth.**

4. If Eleanor rolls two fair **4** –sided dice (numbered 1, 2, 3, 4) and **multiplies** the results, what is the probability that they answer will be evenly divisible by 4? **Write the answer as a reduced fraction.**

5. Sunny's sock drawer has 4 blue socks and 6 black socks. Sunny's bedroom is dark, and she pulls out two socks without being able to see their colors. What is the probability that both socks match? **Write the answer as a reduced fraction.**

6. If you choose a whole number between 1 and 50 at random, what is the probability you will get a number divisible by 3 or 5? **Write the answer as a reduced fraction.**

7. As the minute hand of a clock travels around the face, it passes 12 whole numbers, starting with 1. If **n** is the number the minute hand is on, and **m** is the average (arithemetic mean) of all of the numbers that the minute hand has passed since it started, at what number on the clock is **n = m + 4**?

8. If the probability of Strange is $\frac{3}{4}$ and the probability of Charm is $\frac{5}{6}$, and the probability that both occur is $\frac{5}{8}$, what is the probability that neither occurs? **Write the answer as a reduced fraction.**

9. If Basho flips 4 fair coins, what is the probability that he gets at least 3 heads? **Write the answer as a reduced fraction.**

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 you draw two cards at random, without replacing them, what is the probability of drawing at least one black face card (jack, queen or king)? **Write the answer as a reduced fraction.**