

Whatcom County Math Championship – 2013

Probability + Statistics – 4th Grade

1. If Abe flipped a penny and a nickel, what is the probability that both coins will land on tails? **Write the answer as a reduced fraction.**
2. One number is 6 more than another, and the average of the two numbers is 18. What is the positive difference of those two numbers?
3. Instead of the normal two 6 – sided dice, Tanya likes to play with a fair 5 – sided die and a fair 7 – sided die, which he says is fair, because the highest sum is still 12 and the lowest is still 2. What are the numbers that will most likely come up if Mat rolls his dice and adds the results? **You will have more than one answer.**
4. How many 4 – digit different numbers can you make from the numbers 2, 3, 4 and 5?
5. The average of 7 numbers is 24, while the median is 22. If each number is tripled, what is the sum of the new average and median?
6. How many multiples of 10 are there between 11 and 103?
7. In a race there are six racers. How many different ways can 1st and 2nd place be awarded?
8. Tavi has a drawer full of unmatched socks. 8 are blue, 4 are black, 9 are green and 12 are pink. If she pulls out socks at random, without replacing them, how many socks will she have to pull out before she must have a match?
9. Drake’s Ice Cream only offers chocolate, vanilla and blueberry ice cream. If Alexander gets a bowl with three scoops of ice cream (and the scoops can be the same flavor), how many different combinations could he get?
10. If you pick a whole number from 1 to 25 at random, what is the probability that the number is prime? **Write the answer as a reduced fraction.**

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Probability + Statistics – 5th Grade

1. How many 4 – digit different numbers can you make from the numbers 2, 3, 4 and 5?
2. The average of 7 numbers is 24, while the median is 22. If each number is tripled, what is the sum of the new average and median?
3. How many multiples of 10 are there between 11 and 103?
4. In a race there are six racers. How many different ways can 1st and 2nd place be awarded?
5. Tavi has a drawer full of unmatched socks. 8 are blue, 4 are black, 9 are green and 12 are pink. If she pulls out socks at random, without replacing them, how many socks will she have to pull out before she must have a match?
6. Drake’s Ice Cream only offers chocolate, vanilla and blueberry ice cream. If Alexander gets a bowl with three scoops of ice cream (and the scoops can be the same flavor), how many different combinations could he get?
7. If you pick a whole number from 1 to 25 at random, what is the probability that the number is prime?
Write the answer as a reduced fraction.
8. In a survey of 50 students, 22 like Harry Potter, 25 like Lord of the Rings, and 12 like neither. How many students like both Harry Potter and Lord of the Rings?
9. In the first four of Marge’s five bowling games, she gets scores of 175, 211, 180 and 198. What must she bowl in her last game to have at least a 200 average for all five games?
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 a card at random, what is the probability of drawing a 2, 3 or 4? **Write the answer as a reduced fraction.**

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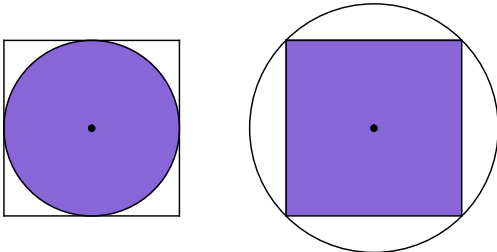
Probability + Statistics – 6th Grade

1. In a race there are six racers. How many different ways can 1st and 2nd place be awarded?
2. Tavi has a drawer full of unmatched socks. 8 are blue, 4 are black, 9 are green and 12 are pink. If she pulls out socks at random, without replacing them, how many socks will she have to pull out before she must have a match?
3. Drake's Ice Cream only offers chocolate, vanilla and blueberry ice cream. If Alexander gets a bowl with three scoops of ice cream (and the scoops can be the same flavor), how many different combinations could he get?
4. If you pick a whole number from 1 to 25 at random, what is the probability that the number is prime?
Write the answer as a reduced fraction.
5. In a survey of 50 students, 22 like Harry Potter, 25 like Lord of the Rings, and 12 like neither. How many students like both Harry Potter and Lord of the Rings?
6. In the first four of Marge's five bowling games, she gets scores of 175, 211, 180 and 198. What must she bowl in her last game to have at least a 200 average for all five games?
7. 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 2, 3 or 4? **Write the answer as a reduced fraction.**
8. Instead of the normal two 6 – sided dice, Mat likes to play with a fair 5 – sided die and a fair 7 – sided die, which he says is fair, because the highest sum is still 12 and the lowest is still 2. What is the probability that if Mat rolls his dice and adds the results, he gets one of the three most possible outcomes? **Write the answer as a reduced fraction.**
9. If Thomas flipped a penny, a nickel, a dime and a quarter, what is the probability that the coins will land on 3 tails and 1 head? **Write the answer as a reduced fraction.**
10. How many 5 – digit numbers can you make with the numbers 2, 3, 4, 5, 6 and 8?

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Probability + Statistics – 7th + 8th Grade

1. If you pick a whole number from 1 to 25 at random, what is the probability that the number is prime? **Write the answer as a reduced fraction.**
2. In a survey of 50 students, 22 like Harry Potter, 25 like Lord of the Rings, and 12 like neither. How many students like both Harry Potter and Lord of the Rings?
3. In the first four of Marge's five bowling games, she gets scores of 175, 211, 180 and 198. What must she bowl in her last game to have at least a 200 average for all five games?
4. 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 2, 3 or 4? **Write the answer as a reduced fraction.**
5. Instead of the normal two 6 – sided dice, Mat likes to play with a fair 5 – sided die and a fair 7 – sided die, which he says is fair, because the highest sum is still 12 and the lowest is still 2. What is the probability that if Mat rolls his dice and adds the results, he gets one of the three most possible outcomes? **Write the answer as a reduced fraction.**
6. If Thomas flipped a penny, a nickel, a dime and a quarter, what is the probability that the coins will land on 3 tails and 1 head? **Write the answer as a reduced fraction.**
7. How many 5 – digit numbers can you make with the numbers 2, 3, 4, 5, 6 and 8?
8. If Emily is drawing two cards at random from a standard 52–card deck, what is the probability that she will draw a black card, then a red card? **Write the answer as a reduced fraction.**
9. The two dartboards below have the same size squares; in the first, the target is a circle inscribed in the square, in the second, the target is a square inscribed in the circle. If a dart hits either dartboard with equal probability, how much larger is the probability that it would hit the target on the first board? **Write your answer as a decimal rounded to the hundredths place.**



10. Drake's Ice Cream only offers chocolate, vanilla, blueberry and mint ice cream. If Alexander gets a bowl with four scoops of ice cream (and the scoops can be the same flavor), how many different combinations could he get?