Washington State Math Championship – 2009
Mental Math – 5th Grade

1. What is the sum of two-thirds and one-sixth? Express your answer as a fraction.

2. If the three angles in a triangle are thirty degrees, forty degrees, and x degrees, what is the value of x?

3. What is ten percent of two hundred?

4. The sum of the first six positive integers is twenty-one. What is the sum of the first six positive even integers?

5. If I have five nickels, two dimes, and six pennies, how much money in cents do I have?

SWITCH TEAM MEMBERS

6. What is one-sixth of thirty-six thousand?

7. What number would I get if I started with three and tripled it twice?

8. If the area of a rectangle is forty-eight and one of the side lengths is six, what is the length of the adjacent side?

9. What is two cubed plus three squared?

10. How many days are in fifteen weeks?

SWITCH TEAM MEMBERS

11. Start with twelve. Add three. Divide by five. Finally, double your result. What is the final resulting number?

12. What is one-half of one-fourth of twenty-four?

13. If three zibbits equal twelve mibbles, how many mibbles are two zibbits?

14. If one side of a regular pentagon has a length of twelve centimeters, what is the perimeter of the pentagon, in centimeters?

15. What is thirty squared?

SWITCH TEAM MEMBERS **(CONTINUED ON BACK)**

Washington State Math Championship – 2009
Mental Math – 5th Grade

16. A square has an area of twenty-five square inches. What is the perimeter, in inches?

17. What is one-third of thirty three plus one-eighth of ninety-six?

18. If today is Saturday, what day of the week will it be in one hundred and thirty-three days?

19. What is the sum of thirteen hundredths, two, and fourteen thousandths? Express your answer as a decimal.

20. If two notebooks cost a total of two dollars and eight cents, and three pencils cost a total of sixty-six cents, how much, in dollars, would three notebooks and two pencils cost? Express your answer as a number of cents.

Washington State Math Championship – 2009
Mental Math – 6th Grade

1. What is ten percent of two hundred?

2. The sum of the first six positive integers is twenty-one. What is the sum of the first six positive even integers?

3. If I have five nickels, two dimes, and six pennies, how much money in cents do I have?

4. What is the sum of the first three positive prime numbers?

5. If Joe's dad is three times his age, and the sum of their ages is fifty-six, what is the dad's age?

SWITCH TEAM MEMBERS

6. If the area of a rectangle is forty-eight and one of the side lengths is six, what is the length of the adjacent side?

7. What is two cubed plus three squared?

8. How many days are in fifteen weeks?

9. What is the sum of the integers between negative eight and positive thirteen? Do not include negative eight or positive thirteen.

10. What is seventeen percent of three hundred?

SWITCH TEAM MEMBERS

11. If three zibbits equal twelve mibbles, how many mibbles are two zibbits?

12. If one side of a regular pentagon has a length of twelve centimeters, what is the perimeter of the pentagon, in centimeters?

13. What is thirty squared?

14. A friend hands you a piece of rope that is fourteen yards long. If you cut and get rid of ten feet of the rope, how long, in feet is the rope now?

15. How many two-digit even numbers are there?

SWITCH TEAM MEMBERS **(CONTINUED ON BACK)**

Washington State Math Championship – 2009
Mental Math – 6th Grade

16. If today is Saturday, what day of the week will it be in one hundred and thirty-three days?

17. What is the sum of thirteen hundredths, two, and fourteen thousandths? Express your answer as a decimal.

18. If two notebooks cost a total of two dollars and eight cents, and three pencils cost a total of sixty-six cents, how much, in dollars, would three notebooks and two pencils cost? Express your answer as a number of cents.

19. If you want to travel the eight hundred miles from New York to Chicago at a steady sixteen miles per hour, how many hours would it take?

20. What is the positive difference of sixteen squared and five squared?

Washington State Math Championship – 2009
Mental Math – 7th Grade

1. If I have five nickels, two dimes, and six pennies, how much money in cents do I have?

2. What is the sum of the first three positive prime numbers?

3. If Joe's dad is three times his age, and the sum of their ages is fifty-six, what is the dad's age?

4. When two fair standard six-sided dice are rolled, what is the probability of getting a sum of eleven? Express your answer as a reduced fraction.

5. What is the sum of positive twelve, negative thirty-three, positive twenty, and negative five?

SWITCH TEAM MEMBERS

6. How many days are in fifteen weeks?

7. What is the sum of the integers between negative eight and positive thirteen? Do not include negative eight or positive thirteen.

8. What is seventeen percent of three hundred?

9. What is the least common multiple of eighteen and eight?

10. If the point with coordinates (2, 2) is reflected across the line y equals x, in which quadrant will the reflected point lie?

SWITCH TEAM MEMBERS

11. What is thirty squared?

12. A friend hands you a piece of rope that is fourteen yards long. If you cut and get rid of ten feet of the rope, how long, in feet is the rope now?

13. How many two-digit even numbers are there?

14. Assuming each piece of clothing is unique, if there are eight t-shirts, two hats, and four pairs of jeans in your closet, how many different outfits of one t-shirt, one hat, and one pair of jeans could you choose?

15. If you quadruple the length of the radius of a circle, by what factor does the area increase?

SWITCH TEAM MEMBERS **(CONTINUED ON BACK)**

Washington State Math Championship – 2009
Mental Math – 7th Grade

16. If two notebooks cost a total of two dollars and eight cents, and three pencils cost a total of sixty-six cents, how much, in dollars, would three notebooks and two pencils cost? Express your answer as a number of cents.

17. If you want to travel the eight hundred miles from New York to Chicago at a steady sixteen miles per hour, how many hours would it take?

18. What is the positive difference of sixteen squared and five squared?

19. Forty-four is twelve and a half percent of what number?

20. What is the circumference of a circle with area one hundred pi? Express your answer in terms of pi.

Washington State Math Championship – 2009
Mental Math – 8th Grade

1. If Joe's dad is three times his age, and the sum of their ages is fifty-six, what is the dad's age?

2. When two fair standard six-sided dice are rolled, what is the probability of getting a sum of eleven? Express your answer as a reduced fraction.

3. What is the sum of positive twelve, negative thirty-three, positive twenty, and negative five?

4. What is the slope of the line that passes through the points with coordinates (5, 1) and (3, 1)?

5. If the surface area of a cube is six hundred, what is the volume of the cube?

SWITCH TEAM MEMBERS

6. What is seventeen percent of three hundred?

7. What is the least common multiple of eighteen and eight?

8. If the point with coordinates (2, 2) is reflected across the line y equals x, in which quadrant will the reflected point lie?

9. How many lines of symmetry does a square have?

10. With a fair die and fair coin, what is the probability of rolling an even number followed by flipping heads? Express your answer as a reduced fraction.

SWITCH TEAM MEMBERS

11. How many two-digit even numbers are there?

12. Assuming each piece of clothing is unique, if there are eight t-shirts, two hats, and four pairs of jeans in your closet, how many different outfits of one t-shirt, one hat, and one pair of jeans could you choose?

13. If you quadruple the length of the radius of a circle, by what factor does the area increase?

14. How many times do you have to double the number two in order for it to become greater than one-thousand?

15. What is the area of a right triangle whose side lengths are six, eight, and ten?

SWITCH TEAM MEMBERS **(CONTINUED ON BACK)**

Washington State Math Championship – 2009
Mental Math – 8th Grade

16. What is the positive difference of sixteen squared and five squared?

17. Forty-four is twelve and a half percent of what number?

18. What is the circumference of a circle with area one hundred pi? Express your answer in terms of pi.

19. If you flip a fair coin three times, what is the probability you will get three heads? Express your answer as a reduced fraction.

20. What is ten factorial divided by nine factorial?