Washington State Math Championship

$\sqrt{2013}$

Ferndale Refinery

Blaine School District

Mental Math – 5th Grade

1. If a regular octagon has a perimeter of one-hundred twenty, what is the length of one side?
2. What is the probability of rolling an even number followed by rolling an odd number with a fair six-sided die? Express your answer as a reduced fraction.
3. Start with twelve squared. Add fourteen. Divide the result by two. What is the final result?
4. If Seattle is one-hundred twenty miles from Blaine, and Everett is eighty-two miles from Blaine, how many miles is it from Everett to Seattle?
5. What is the simplest form of the fraction thirty thirty-sixths?

SWITCH TEAM MEMBERS

6. If the sum of three consecutive integers is one-hundred sixty-five, what is the greatest of the three integers?
7. If the area of a rectangle is twenty-eight and the length of one of the sides is four, what is the perimeter of the rectangle?
8. If Bella started doing her math homework at "three thirty-five pm" and finished at "five ten pm", how many minutes did she spend doing her math homework?
9. What is the sum of the six smallest positive odd numbers?
10. How many positive factors does thirty have?

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11. If you are randomly choosing a bottle cap out of a bucket with ten red caps, two blue caps, and eight yellow caps, what is the probability that you will choose a blue cap? Express your answer as a reduced fraction.
12. What is the greatest common factor of fifty-six and seventy-two?
13. If the price of an apple is initially eighty cents and is on sale for twenty-five percent off, what is the discounted price of the apple in cents?
14. What is the remainder when one-hundred twenty-two is divided by thirteen?
15. If you have six triangles, four squares, three pentagons, and five hexagons, how many sides are there in all?

OVER $\longrightarrow$

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16. If the area of a triangle is thirty and the base has a length of twelve, what is the height of the triangle?

17. Suppose that you have already rolled a fair six-sided die twice, resulting in a one and a two. If you roll the same die for a third time, what is the probability you will roll a six? Express your answer as a reduced fraction.

18. Start with the product of four and twelve. Subtract twelve. Divide by twelve. What is the final result?

19. Suppose that a turtle travels for two hours at a constant rate of thirteen meters every twelve minutes. How many meters did the turtle travel?

20. If the average of three numbers is fifty, and two of the numbers are twenty and ninety, what is the third number?

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Ferndale Refinery

Blaine School District

Mental Math – 6th Grade

1. Start with twelve squared. Add fourteen. Divide the result by two. What is the final result?
2. If Seattle is one-hundred twenty miles from Blaine, and Everett is eighty-two miles from Blaine, how many miles is it from Everett to Seattle?
3. What is the simplest form of the fraction thirty thirty-sixths?
4. If the measures of two of the angles in a triangle are thirty-seven and seventy-three degrees, what is the measure of the third angle?
5. If there are six tables in a classroom, four chairs at each table, and four tennis balls on the legs of each chair, how many tennis balls are in the classroom?

SWITCH TEAM MEMBERS

6. If Bella started doing her math homework at "three thirty-five pm" and finished at "five ten pm", how many minutes did she spend doing her math homework?
7. What is the sum of the six smallest positive odd numbers?
8. How many positive factors does thirty have?
9. What is the sum of five squared and twelve squared?
10. What is the surface area of a cube with an edge length of three?

SWITCH TEAM MEMBERS

11. If the price of an apple is initially eighty cents and is on sale for twenty-five percent off, what is the discounted price of the apple in cents?
12. What is the remainder when one-hundred twenty-two is divided by thirteen?
13. If you have six triangles, four squares, three pentagons, and five hexagons, how many sides are there in all?
14. How many multiples of six are there between twenty-nine and ninety-two?
15. Start with twice the sum of sixteen and thirteen. Subtract nineteen. Finally, divide by three. What is the final result?

OVER $\longrightarrow$

SWITCH TEAM MEMBERS

16. Start with the product of four and twelve. Subtract twelve. Divide by twelve. What is the final result?

17. Suppose that a turtle travels for two hours at a constant rate of thirteen meters every twelve minutes. How many meters did the turtle travel?

18. If the average of three numbers is fifty, and two of the numbers are twenty and ninety, what is the third number?

19. What is the positive difference of one-fifth and one-fourth? Express your answer as a reduced fraction.

20. If x is equal to twelve and y is equal to five, what is the value of the expression "five y minus two x"?

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Ferndale Refinery

Blaine School District

Mental Math – 7th Grade

1. What is the simplest form of the fraction thirty thirty-sixths?
2. If the measures of two of the angles in a triangle are thirty-seven and seventy-three degrees, what is the measure of the third angle?
3. If there are six tables in a classroom, four chairs at each table, and four tennis balls on the legs of each chair, how many tennis balls are in the classroom?
4. What is the sum of two factorial, three factorial, and four factorial?
5. If two-fifths of a number is sixteen, what is twice that number?

SWITCH TEAM MEMBERS

6. How many positive factors does thirty have?
7. What is the sum of five squared and twelve squared?
8. What is the surface area of a cube with an edge length of three?
9. What is half of the positive difference of two-hundred thirty-four and seventy-six?
10. Start with twice the sum of one-half and one-fourth. Multiply by ten. What is the final result?

SWITCH TEAM MEMBERS

11. If you have six triangles, four squares, three pentagons, and five hexagons, how many sides are there in all?
12. How many multiples of six are there between twenty-nine and ninety-two?
13. Start with twice the sum of sixteen and thirteen. Subtract nineteen. Finally, divide by three. What is the final result?
14. What is the sum of the positive factors of sixteen?
15. What is the sum of three-fourths and two-fifths? Express your answer as a decimal.

OVER $\longrightarrow$

SWITCH TEAM MEMBERS

16. If the average of three numbers is fifty, and two of the numbers are twenty and ninety, what is the third number?

17. What is the positive difference of one-fifth and one-fourth? Express your answer as a reduced fraction.

18. If x is equal to twelve and y is equal to five, what is the value of the expression "five y minus two x"?

19. What is one-hundred fifty-thousand divided by five-thousand?

20. How many inches are in two-and-a-half yards?

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Ferndale Refinery

Blaine School District

Mental Math – 8th Grade

1. If there are six tables in a classroom, four chairs at each table, and four tennis balls on the legs of each chair, how many tennis balls are in the classroom?
2. What is the sum of two factorial, three factorial, and four factorial?
3. If two-fifths of a number is sixteen, what is twice that number?
4. What is the distance from the point with coordinates "four, twelve" to the point with coordinates "negative two, twenty"?
5. What is the product of "one point six" and "two point one"? Express your answer as a decimal.

SWITCH TEAM MEMBERS

6. What is the surface area of a cube with an edge length of three?
7. What is half of the positive difference of two-hundred thirty-four and seventy-six?
8. Start with twice the sum of one-half and one-fourth. Multiply by ten. What is the final result?
9. If you flip a fair coin four times, what is the probability that you will flip exactly one head? Express your answer as a reduced fraction.
10. What is the sum of ninety-two, negative sixty-three, fifty-seven, negative eighteen, and one-hundred forty-four?

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11. Start with twice the sum of sixteen and thirteen. Subtract nineteen. Finally, divide by three. What is the final result?
12. What is the sum of the positive factors of sixteen?
13. What is the sum of three-fourths and two-fifths? Express your answer as a decimal.
14. A retailer lowered the price of an item by ten percent and then immediately raised the price again by ten percent of the new price. By what percentage did the item's price decrease from its original price?

OVER $\longrightarrow$

15. What is the length of a line segment that starts at the point with coordinates "zero, zero" and ends at the point with coordinates "twelve, five"?

SWITCH TEAM MEMBERS

16. If x is equal to twelve and y is equal to five, what is the value of the expression "five y minus two x"?

17. What is one-hundred fifty-thousand divided by five-thousand?

18. How many inches are in two-and-a-half yards?

19. What is forty-two percent of two-hundred fifty?

20. What is the sum of the surface areas of three cubes that have side lengths of one, three, and five?