First Name: _____	**Last Name:** _____	**Grade:** _____
Teacher: _____	**Parent's email:** _____	

Winter Math Problems

Welcome to the Math Challenge #6. When the weather gets cold, we enjoy drinking hot chocolates, making snowflakes, baking cookies, or playing in the snow! Enjoy this winter themed challenge.

If you are new to any of the problem solving strategies, check out our complete overview of elementary problem solving strategies at https://www.mathinaction.org/problem-solving-strategies.html.

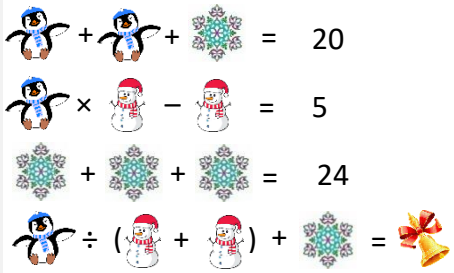
Kinder & First Grade: solve <u>at least</u> 3 problems.
Second & Third Grade: solve <u>at least</u> 7 problems.
Fourth Grade and above: solve <u>at least</u> 12 problems.

		Answer
1.	 Six out of the nine reindeer are ready to help Santa tonight. How many reindeer are not ready yet?	
2.	Yesterday, there were 4 winter hats on the lost and found table at school. Today, it looks like there are additional hats on the table. Tony counts them and there are 12 hats in total. How many hats were added to the table today? 	
3.	 Lara made 9 holiday cards for her friends, 2 for her sisters, and one for her teacher. How many total holiday cards did she make?	
4.	In the morning, two teams started building snowmen in a field. Team A built 2 snowmen at first, and then built 7 additional snowmen in the field. Team B built some snowmen in the same field. If there are 15 snowmen in the field, how many were built by Team B? 	
5.	 Tim sold 23 cups of hot cocoa on Saturday. He then sold 8 more cups of hot cocoa on the next day than he did on Saturday. How many total cups of hot cocoa did he sell on both days?	
6.	Three students are making snowflakes from papers. The snowflakes will be used to decorate Ms. Bennes' classroom. So far, Diya made 6 snowflakes, Tia made 5 snowflakes, and Arav make 7 snowflakes. If Ms. Bennes would like to have 30 snowflakes, how many more snowflakes do the three students need to make? 	

7. Dana wants to build a snowman. She starts with the bottom of her snowman, which measures 2 feet tall. She wants the size of the middle part to be half as tall as the bottom part. Then, she wants the size of the top part or the head of the snowman to be half as tall as the middle piece. If she follows this plan, how tall will her snowman be in feet?

8. A group of carolers went down Redmond Street and noticed that the house numbers are in a certain pattern. What is the number of the 10th house?

9. If each symbol has a different value, what would be the value of the bell?



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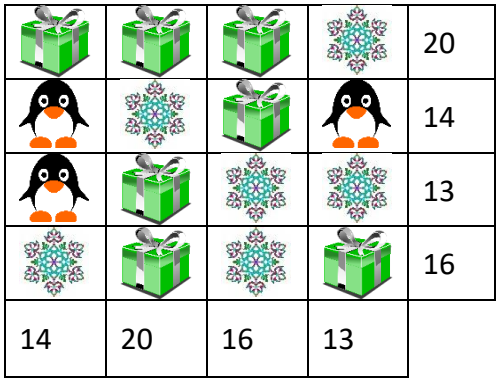
10. Yasmina and her friends are making paper snowflakes. They have 12 sheets of paper. They can make 3 small snowflakes, or 2 medium snowflakes, or 1 large snowflake from a single piece of paper. They use an equal number of papers to make small snowflakes, medium snowflakes, and large snowflakes. How many snowflakes do they make?

11. The sum of each row and column is given. What is each symbol worth?



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12. A mug which can hold 360 ml of hot chocolate is only 4/9 full. How much more hot chocolate must be added to make it 2/3 full?

13.	Santa has a total of **nine reindeer**. Their names are Dasher, Dancer, Prancer, Vixen, Comet, Cupid, Donner, Blitzen and, of course, Rudolph. The 9 reindeer are all thinking of whole numbers that are less than 60. Rudolph chooses a prime number, Dasher squares Rudolph's number, and Dancer doubles Dasher's number. Prancer's number is three-fifth of Dancer's number. The other 5 reindeer choose numbers that have a mean of 8. What is the total of all 9 numbers? 	
14.	**Christmas crackers** are festive table decorations that make a snapping sound when pulled open, and often contain a small gift. Meira was very excited for Christmas and put equal amounts of money in the four crackers. Her brother Jared was being naughty and took ½ of the money out of one cracker, ¼ of another, 1/3 of another and 1/6 of the last one. He got $30. How much did Meira put in each cracker? 	
15.	Two elves are making toys. Cotton can make a toy every 12 minutes and Buddy can make a toy every 16 minutes. If they start making toys at 8:30 am, what time will it be when they complete making a toy at the same time? 	
16.	Santa flies from Seattle to Vancouver Island. He travels the 200 miles in 2.5 minutes. What was his average speed in miles per second? Round your answer to the nearest hundredth.	
17.	After spending ¾ of her money on Christmas gifts and $84 on a light-up snowman decoration for her front yard, Mrs. Frost still had 1/12 of her money left. How much money did she have in the beginning?	
18.	Ed drew a snowman. The radius of the snowman's head is 10 cm. If the area of the snowman's body is 69% larger than its head, what is the radius of the snowman's body? 	

Solution is available on January 7, 2022, at www.mathinaction.org