

Math Challenge #6



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

All Things Winter

Welcome to the Math Challenge #6. Did you know that the winter solstice is the day with the fewest hours of sunlight in the whole year? Another interesting fact is that there are two winter solstices per year, one for each hemisphere. The theme for this challenge is all things winter, from the cold crisp air, snowflakes, and holiday celebrations. Grab your parents, siblings, and grandparents to help you solve as many problems as you can. Good luck!

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

Answer

<p>1. Solve the mystery numbers under the snowflakes:</p> <p>a. $5 + 2 =$ </p> <p>b. $5 +$  $= 12$</p> <p>c.  $+ 8 = 11$</p> <p>d. $7 +$  $= 12$</p>	<p>a.</p> <p>b.</p> <p>c.</p> <p>d.</p>
<p>2. Fill in the missing operators (+, -) so that each expression equals its target number. For example: Target number: 3 $1 \square 1 \square 1 \rightarrow$ Answer: + and +</p> <p>a. Target number: 6 $3 \square 2 \square 1$</p> <p>b. Target number: 2 $3 \square 2 \square 1$</p>	<p>a.</p> <p>b.</p>
<p>3. Solve the mystery numbers covered by the snowmen.</p> <p>a. $10 -$  $= 6$</p> <p>b.  $- 4 = 3$</p> <p>c. $10 -$  $= 4$</p> <p>d.  $- 2 = 3$</p>	<p>a.</p> <p>b.</p> <p>c.</p> <p>d.</p>
<p>4. Martha is reading a book about snowflakes. She read from the beginning of page 5 to the end of page 14 today. How many pages did Martha read today?</p>	
<p>5. A group of children stood in a line for a free hot cocoa. Pamela was the 4th from the front of the line and was the 6th from the end of the line. How many children were standing in line?</p>	
<p>6. During the month of December, there are 3 students who are turning 7 years old in Mrs. Cloud's class. Jake's birthday is three days before Kim. Tommy's birthday is two days after Kim. If Tommy's birthday is on Sunday, December 9. On what day of the week is Jake's birthday this year?</p>	
<p>7. Each day since Jemma arrived at Grandpa Jolly's Orchard, she picked 10 apples, ate 2 of them, and saved the rest. How many apples had Jemma saved by then end of her 4th day there?</p>	

8. If Natalie gives Maya 6 snowballs, Maya will have the same number of snowballs as Natalie. How many more snowballs does Natalie have than Maya if she does not give the 6 snowballs to Maya?

9. Jessica is making holiday cards for everyone living in the local homeless shelter. It takes her 2 minutes to make one card. If she is constantly making cards at this speed, how many cards can she make in one hour?

10. Amazing Cheap Store is having a sale on the latest hot toy that is notoriously hard to get a hold of. While waiting in line for the store to open and the sale to begin, John notices that his friend Charlie is ahead of him and that there are only 5 people ahead of Charlie. If there is a total of 38 people in line, and 15 of those people are behind John, how many people are between John and Charlie?

11. A toy shop makes tricycles and four-wheel wagons. Seven customers ordered six items each. Every order was different. How many number of wheels in all are needed for all seven customers? Hint: *list all possible orders by seven customers then calculate the number of wheels needed for each customer.*

12. Gearing toward Christmas this year, James worked hard and earned \$864 during the month of November. He was paid \$9 per hour. He did not work more than five hours each day, nor did he work on Sunday. He also worked a whole number of hours. If he worked the same number of hours each day, how many hours per day did he work?

13. If two apples and three mangoes cost \$5.10, while four apples and seven mangoes cost \$11.10, what is the cost of one apple and five mangoes?



14. Four friends take temporary jobs during Thanksgiving week to earn extra money. Each works different hours. Ron works for two hours. Leo works $2\frac{3}{4}$ as long as Ron. Shane works $1\frac{1}{4}$ hours less than Jeff. Jeff works $2\frac{1}{2}$ times as long as Leo. How long does each person work?

15. Veena, Vasilisa, and Valerie are sisters. One day in December, they each baked the same number of cookies. Veena saved one-third of the cookies she baked for a potluck party, Vasilisa saved one-quarter of the cookies she baked for the potluck party, and Valerie saved one-fifth of the cookies she baked for the same party. What is the minimum number of cookies they could have at the party from these three sisters?

16. Jacob cut logs to prepare for the fire during winter nights. He can cut a log into three pieces in 24 minutes. At this rate, how long will it take him to cut another similar log into eight pieces?

17. Hannah sold \$65 worth of Starlight Winter Fair tickets. Adult tickets cost \$4 each and children's tickets cost \$3 each. How many adult tickets could Hannah have sold? Is there more than one possible solution to this problem?