

Math Challenge #9

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

Winter Wonderland

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.

	<i>Answer</i>
<p>1. Raja is playing pretend. He is a storekeeper and selling 5 items as follow:</p> <div style="text-align: center;"> </div> <p>If Ananya wants to spend exactly \$10, which 2 items should she buy?</p>	<p><i>Snow globe and snowman</i></p>
<p>2. We wanted to go skiing for the weekend, but we weren't sure if it was going to snow. As it turns out, we got plenty of snow. It snowed five inches on Wednesday, ten inches on Thursday, and twelve inches on Friday. How many inches did it snow in all?</p> <p><i>5+10+12 = 27</i></p>	<p><i>27 [inches]</i></p>
<p>3. Malia can knit a scarf in four hours. She wants to make a scarf for each of her three friends, Bianca, Mona and Tayshaun. How many hours will it take her to knit them?</p> <p><i>4 hours + 4 hours + 4 hours = 12 hours</i> <i>Or 4 × 3 = 12 hours</i></p>	<p><i>12 [hours]</i></p>
<p>4. <i>6 + 9 + 23 = 38 pounds</i></p>	<p><i>38 [pounds]</i></p>
<p>5.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> - = 1</p> <p> + = 6</p> <p> + + = 12</p> <p> + + = ?</p> </div> <div style="width: 50%;"> <p>First, we can find the value of a snowman: $12 \div 3 = 4$.</p> <p>The snowflake must be $6 - 4 = 2$.</p> <p>The hat must be $2 - 1 = 1$.</p> <p> + + = $1 + 2 + 4 = 7$</p> </div> </div>	<p><i>7</i></p>
<p>6. <i>62 - 13 = 49 degrees Fahrenheit</i></p>	<p><i>49 [degrees] or 49 [°F]</i></p>
<p>7.</p> <p>a. Boris and Tamara did 5 = $5 \times 4 = 20$ sledding trips together</p> <p>b. Milo did = $4 + 4 + 2 = 10$ more sledding trips than Galina</p>	<p>a. <i>20 [sledding trips]</i></p> <p>b. <i>10 [sledding trips]</i></p>
<p>8. <i>3" Monday 2" Tuesday 4" Wednesday 3" Thursday 5" Friday 4" Saturday 6" Sunday 5" Monday 7" Tuesday</i></p>	<p><i>Friday or Friday morning</i></p>

9.		<p>First, we can find the hot chocolate: $2 \times 3 = 6$. Christmas tree = $48 \div 6 = 8$ To find the value of the hat, we need to find the value of the fireplace. The fireplace must be 5 (since $5 \times 5 = 25$), and the hat is $5 \times 3 = 15$. The sled is $3 \times 6 = 18$.</p>	
10.	$138 \text{ feet } 4 \text{ inches} + (12 \text{ feet } 6 \text{ inches} + 138 \text{ feet } 4 \text{ inches}) + 131 \text{ feet } 2 \text{ inches} = 419 \text{ feet } 16 \text{ inches} = 420 \text{ feet } 4 \text{ inches}$		<i>420 feet 4 inches or 420 feet and 4 inches</i>
11.	<p>Total cost of the room: $\\$164 \times 6 \text{ rooms} \times 2 \text{ nights} = \\$1,968$ Total number of people: $4 \times 6 \text{ rooms} = 24$ Each person has to pay: $\\$1,968 \div 24 = \\82 Or, since everything is divided evenly by 4, the cost for 1 night for 1 person is $\\$164 \div 4 = \\41. Therefore, the cost for 2 nights is $\\$41 \times 2 = \\82.</p>		<i>\$82</i>
12.		<p>First, we can find the value of one snowman: $74 - 46 = 28$. The present must be $(46 - 28) / 2 = 18 / 2 = 9$. The hot chocolate must be $9 - 1 = 8$.</p>	<i>45</i>
13.	<p>SNOW has 4 letters. Start with the letter S. There are two ways we can choose the letter N. From Each N there are two ways to choose O. From chosen O there are two ways to choose W. $1 \times 2 \times 2 \times 2 = 8$ ways Another way to solve it is to draw it out and organize/list the ways.</p>		<i>8 [ways]</i>
14.	<p>Number of total light bulbs: $159 \times 25 = 3975$. Number of bulbs hung each hour: $3975 / 15 = 265$.</p>		<i>265 [bulbs]</i>
15.	<p>Convert all times to London time. Plane 1 arrives in at 3 p.m. Boston time, which is 8 p.m. London time, therefore it was 8 hours flight. The plane that Arjun and family are taking leaves Boston at noon, Boston time, which is 5 p.m. London time. Since the travel time is 8 hours, therefore it is 1 a.m. in London when their plane arrives there in London.</p>		<i>1 a.m.</i>
16.	<p>Her driveway has $8 \times 5 \times 3 = 120$ cubic feet of snow. After the first hour, she would have $120 - 20 = 100$ cubic feet, then $100 - 19 = 81$, $81 - 18 = 63$, $63 - 17 = 46$, $46 - 16 = 30$, $30 - 15 = 15$, and $15 - 14 = 1$ cubic feet after the seventh hour. It will take her a little more than seven hours to shovel it clean.</p>		<i>7 [hours]</i>
17.	<p><u> </u> <u> </u> <u> </u> <u> </u> = $5 \times 3 \times 2 \times 7 = 210$ ways Hats Eyes Noses Scarves</p>		<i>210 [ways]</i>
18.	<p>Since the 5% difference worth \$200, 100% (of the original price) would be: \$4000. 80% of \$4000 + 120 = \$3320 or $85\% \times \\$4000 - 80 = \\3320.</p>		<i>\$3320</i>