



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

## Mixed Problem Solving

In this Math Challenge, we have mixed problems where you can solve them using one of the problem solving strategies or combination of strategies. By now, you should be an expert in using the different strategies. Enjoy this last Math Challenge for this school year.

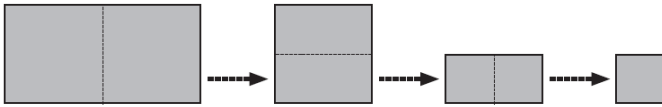
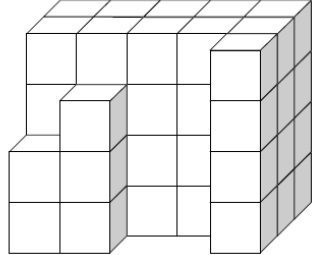
Summer is just around the corner. Continue to enhance your math skills by seeking opportunities in activities that involve math. Gardening, baking, hiking, and games like bean bag toss or mancala are just some of rich math activities.

**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. How many dots are outside the circle but inside the triangle?</p> <div style="text-align: center; margin: 20px 0;"> </div>	
<p>2. The answer to each of the following addition problems is on the back of each card. How many of the following 6 cards have the number 9 on the back?</p> <div style="display: flex; justify-content: center; gap: 20px; margin: 20px 0;"> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 15px; background-color: #FFF9C4;">2+2+4</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 15px; background-color: #FFF9C4;">3+4+2</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 15px; background-color: #FFF9C4;">1+2+6</div> </div> <div style="display: flex; justify-content: center; gap: 20px; margin: 10px 0;"> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 15px; background-color: #FFF9C4;">3+2+3</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 15px; background-color: #FFF9C4;">1+3+5</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 15px; background-color: #FFF9C4;">4+1+4</div> </div>	
<p>3. Tamara is sorting number cards into 3 boxes as shown below. How many total number cards do not belong to any of the boxes?</p> <div style="display: flex; justify-content: center; gap: 10px; margin: 20px 0;"> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">36</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">12</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">41</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">53</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">26</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">31</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">47</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">21</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">62</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">19</div> <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 5px 10px;">38</div> </div> <div style="display: flex; justify-content: space-around; margin: 20px 0;"> <div style="border: 1px solid #0070C0; padding: 10px; width: 30%; text-align: center;"> <p><b>A</b></p> <p><i>Numbers that are odd and less than 20</i></p> </div> <div style="border: 1px solid #0070C0; padding: 10px; width: 30%; text-align: center;"> <p><b>B</b></p> <p><i>Numbers that are greater than 20 but less than 45</i></p> </div> <div style="border: 1px solid #0070C0; padding: 10px; width: 30%; text-align: center;"> <p><b>C</b></p> <p><i>Numbers that are even and greater than 45</i></p> </div> </div>	
<p>4. Raina is moving to California. She packed her stuffed animals in boxes. When she was done packing, she had 3 boxes with 6 stuffed animals in each box, and 1 box of 12 stuffed animals. Assuming there were no stuffed animals in any other boxes, how many stuffed animals does she have in total?</p>	

<p>5. Francine and Kevin like to eat dumplings. During lunch, for every 2 dumplings Francine eats, Kevin eats 3 dumplings. Francine just ate her 8th dumpling. How many dumplings did Kevin eat?</p>	
<p>6. Tanisha is wondering how much money she had in her wallet this morning. She has now \$7 left after going to the bookstore and the mall. She gathered her receipts and realized that she spent \$8 on books and \$5 on a snack at the bookstore. Then, at the mall, she bought a pair of shoes for \$36. How much did she have before going to both the bookstore and mall?</p>	
<p>7. The book fair at school is happening this week. Emily is excited to spend some of this week's allowance on books. All paperback books cost the same. If Emily buys 5 paperback books, she will have \$3.50 left. If she buys 6 paperback books, she will need \$4.00 more than what she received for this week's allowance. How much does a paperback book cost?</p>	
<p>8. In 2023, the price of a scoop of ice cream at ABC Cold store is \$5.25. Holy predicts that the price will increase by \$0.25 per year. If she is correct, in what year will the price of a scoop of ice cream at ABC Cold store be \$7.50?</p>	
<p>9. Danika ordered a birthday cake online. It cost her a total of \$100 including a delivery fee. The cake cost \$88 more than the delivery fee. How much was the delivery fee? <i>Hint: Draw a model</i></p>	
<p>10. Houses on 99<sup>th</sup> street are numbered with consecutive even numbers. If the first house is numbered 1052 and the last house is numbered 1088, how many houses are on 99<sup>th</sup> street? <i>Note: Consecutive numbers are numbers that follow each other in order.</i></p>	
<p>11. Kathy and Wesley are building a fence around their big backyard. Both of them are making panels for their fence. Kathy works faster than Wesley. They start making these panels at the same time. For every 5 panels Kathy makes, Wesley makes 4 panels. Wesley just finished his 16<sup>th</sup> panel. How many panels did they make altogether?</p>	

<p>12. Two sisters are running laps around the school track to raise money for the school gymnastic team. On the first day, Rochelle ran six laps, but Regina had time to only run one lap. They both agreed to run one lap a day each day after their first day's run. In how many days after the starting day will it be before Rochelle has run exactly twice as far as Regina?</p>	
<p>13. Amina, Beatrice, and Cadence had different numbers of coins at first. Then, each of the following actions happened in the order listed below:</p> <ul style="list-style-type: none"> <li>• Amina gave Beatrice 12 coins.</li> <li>• Beatrice gave Cadence 10 coins.</li> <li>• Cadence gave Amina 4 coins.</li> </ul> <p>In the end, they each had exactly 20 coins. How many coins did each of them have at first?</p>	<p><i>Amina:</i> <i>Beatrice:</i> <i>Cadence:</i></p>
<p>14. Max folded a rectangular piece of paper in half three times to make a square. If one side of the final square was 2.5 cm, what was the area of the piece of paper (in <math>\text{cm}^2</math>) that he started with?</p> 	
<p>15. Nina is making a rectangular prism out of small cubes. The stack of cubes below is the beginning of her 5 by 4 by 3 rectangular prism. How many more cubes have to be added to complete her rectangular prism?</p>	
<p>16. A brigade of over a thousand men can line up in 13 rows of equal length with 4 soldiers left over and it can line up in 19 rows of equal length with 1 soldier left over. What is the smallest possible size of the brigade?</p>	
<p>17. A gas tank went from three-eighths full to two-thirds full by adding seven gallons of gas. How many more gallons must now be added to completely fill the tank?</p>	
<p>18. The digits 7,5,3,2, and 0 are each used once to make the smallest possible 5 digit number divisible by 11. What is the hundreds digit of this number?</p>	

*Solution is available on May 19, 2023*  
[www.mathinaction.org](http://www.mathinaction.org)