








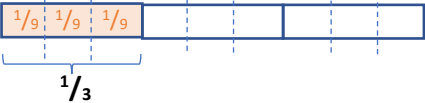


# Math Challenge #5



## Cooking and Baking

**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*

1.	Samyak and Hayden decorated 2 cookies each. Boris decorated 3 cookies. How many cookies did they decorate altogether? $2+2+3 = 7$ cookies	<i>7 [cookies]</i>
2.	Grandma Jean cut a pumpkin pie into 8 equal pieces. If we ate all but 2 slices of pie, how many slices did we eat? $8 - 2 = 6$ slices	
3.	To make a batch of oatmeal cookies, Bernie needs 4 cups of old fashioned oats. How many cups of oats will he need to make 3 batches of oatmeal cookies? $4 + 4 + 4 = 12$ cups	<i>12 [cups]</i>
4.	 $14 - 5 = 9$	<i>9 [ingredients]</i>
5.	a. $12 + 15 = 27$ cookies b. Takai baked $3 \times 12 = 36$ cookies. The number of cookies left to share: $36 - 27 = 9$ .	
6.	Total number of pizza slices: $8 \times 4 = 32$ slices. Number of slices eaten: $(12+1) \times 2 = 26$ . Number of slices left: $32 - 26 = 6$ slices.	<i>6 [slices]</i>
7.	We need to pick items that cost the least. Five items (a gingerbread cookie, a donut, a cupcake, a slice of chocolate roll cake, and a slice of chocolate layer cake): $\$1.35 + \$1.95 + \$3.75 + \$4.65 + \$4.95 = \$16.65$ . We have 5 baked goods. Adding an orange cake or a strawberry cake will result in more than \$20.	<i>5 [goods]</i>
8.	$24 - 3 = 21$ dinner rolls were eaten. Adult   } 21 Child  } $21 \div 3 = 7$ dinner rolls per 1 unit. Each child ate 1 dinner roll, so there are 7 children in the family. The number of adults is also 7.	
9.	Think:  $1/3 \div 3 = 1/9$	
10.	 3 one-thirds make 1 whole. So, every 3 pumpkin pies, Shin needs 1 cup of flour. For 15 pumpkin pies, she used <b>5 cups</b> of flour.	<i>5 [cups]</i>

<p>11. <b>1 kilogram = 1000 grams.</b>  For large carrot cakes, he used: <math>350 \times 8 = 2800</math> grams or 2.8 kg  The amount of carrots left for making small carrot cakes: <math>5.0 - 2.8 = 2.2</math> kg or 2200 g.  Count up by 240 <math>\rightarrow</math> 240, 480, 720, 960, 1200, 1440, 1680, 1920, 2160 <math>\rightarrow</math> <b>9 small carrot cakes.</b></p>	<p>9 [small carrot cakes]</p>	
<p>12. a. <math>1\frac{1}{4} + \frac{2}{3} + 1\frac{1}{2} =</math> to improper fractions <math>= \frac{5}{4} + \frac{2}{3} + \frac{3}{2} = \frac{15}{12} + \frac{8}{12} + \frac{18}{12} = \frac{15+8+18}{12} = \frac{41}{12} = 3\frac{5}{12}</math> cups</p> <p>b. <b>1 cup = 16 TBSP</b>  So, <math>3\frac{5}{12} * 16</math> tablespoons = <b>54 <math>\frac{2}{3}</math> tablespoons</b></p>	<p>a. <math>3\frac{5}{12}</math> [cups]</p> <p>b. <math>54\frac{2}{3}</math> tablespoons</p>	
<p>13. <b>Determine Total Time for Each Course:</b></p> <ul style="list-style-type: none"> <li>• Appetizer: <math>30+15 = 45</math> minutes</li> <li>• Main Course: <math>45+60 = 105</math> minutes = 1 hr 45 min</li> <li>• Dessert: <math>20+30 = 50</math> minutes</li> </ul> <p><b>Calculate Starting Times:</b></p> <ul style="list-style-type: none"> <li>• Appetizer: 7:00 PM–45 minutes = <b>6:15 PM</b></li> <li>• Main Course: 7:00 PM–1hr 45 minutes = <b>5:15 PM</b></li> <li>• Dessert: 7:00 PM–50 minutes = <b>6:10 PM</b></li> </ul>	<p>Appetizer: 6:15 PM</p> <p>Main Course: 5:15 PM</p> <p>Dessert: 6:10 PM</p>	
<p>14. Determine the cost for each brand:</p> <ul style="list-style-type: none"> <li>• Brand A: you need to buy <math>96/12</math> or 8 bags at <math>\\$3.50 = \\$28.00</math></li> <li>• Brand B: you need to buy <math>96/16</math> or 6 bags at <math>\\$4.75 = \\$28.50</math></li> <li>• <b>Brand C:</b> you need to buy <math>96/20</math> or 5 bags at <math>\\$5.00 = \\$25.00 \rightarrow</math> cheapest</li> </ul>	<p>Brand C</p>	
<p>15. a. <math>14 \times \\$1.48 =</math> <b><math>\\$20.72</math></b> for the turkey</p> <p>b. Time to bake the turkey: <math>14 \times 15 = 210</math> minutes = <b>3 hours 30 minutes</b></p>	<p>a. <math>\\$20.72</math></p> <p>b. 3 hours 30 minutes</p>	
<p>16. 4 tablespoons = <math>4/16 = \frac{1}{4}</math> cup  1 pie requires <math>2\frac{1}{4} + \frac{1}{4} = 2\frac{1}{2}</math> cups of flour  3 pies <math>2\frac{1}{2} + 2\frac{1}{2} + 2\frac{1}{2} = 7\frac{1}{2}</math> cups of flour</p>	<p><math>7\frac{1}{2}</math> [cups of flour]</p>	
<p>17. <b>1 cup = 16 tablespoons; 1 tablespoon = 3 teaspoons</b></p> <table border="1"> <tr> <td> 1 <math>\frac{1}{4}</math> cup granulated sugar  <math>\frac{3}{4}</math> cup + 2 tablespoons cocoa powder  <math>\frac{1}{2}</math> cup all-purpose flour  1 teaspoon vanilla extract  <math>\frac{3}{4}</math> cups chocolate chips  10 tablespoons unsalted butter  2 large cold eggs  A pinch of fine sea salt </td> </tr> </table> <p><math>16 + 4 = 20</math> tablespoons granulated sugar  <math>\frac{3}{4}</math> of <math>16 + 2 = 14</math> tablespoons cocoa powder  <math>16 \div 2 = 8</math> tablespoons all-purpose flour  <b><math>\frac{1}{3}</math> tablespoon</b> vanilla extract  <math>\frac{3}{4}</math> of <math>16 = 12</math> tablespoons chocolate chips</p>	1 $\frac{1}{4}$ cup granulated sugar $\frac{3}{4}$ cup + 2 tablespoons cocoa powder $\frac{1}{2}$ cup all-purpose flour 1 teaspoon vanilla extract $\frac{3}{4}$ cups chocolate chips 10 tablespoons unsalted butter 2 large cold eggs A pinch of fine sea salt	<p><u>20</u> TBS sugar</p> <p><u>14</u> TBS cocoa powder</p> <p><u>8</u> TBS flour</p> <p><u><math>\frac{1}{3}</math></u> TBS vanilla</p> <p><u>12</u> TBS chocolate chips</p>
1 $\frac{1}{4}$ cup granulated sugar $\frac{3}{4}$ cup + 2 tablespoons cocoa powder $\frac{1}{2}$ cup all-purpose flour 1 teaspoon vanilla extract $\frac{3}{4}$ cups chocolate chips 10 tablespoons unsalted butter 2 large cold eggs A pinch of fine sea salt		
<p>18. The cost for making 10 dozen cookies (or 120): <math>\\$5.55 \times 10 = \\$55.50</math>  90% of the cookies: <math>90/100 \times 120 = 108</math>  The money received from selling the cookies: <math>108 \times \\$2 = \\$216</math>  The amount of money they will donate: <math>\\$216 - \\$55.50 =</math> <b><math>\\$160.50</math></b></p>	<p><b><math>\\$160.50</math></b></p>	

Solution is available on November 22, 2024  
[www.mathinaction.org](http://www.mathinaction.org)