

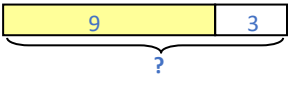






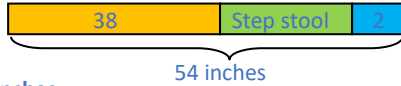



Math Challenge #7

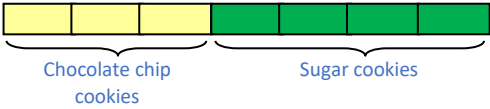


First Name: _____	Last Name: _____	Grade: _____
Teacher: _____	Parent's email: _____	

Draw a model


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>
1.  $9 + 3 = 12$ sparkly rocks	<i>12 [sparkly rocks]</i>
2.  First, we find the number of donut erasers with white icing: $12 - 3 - 4 = 5$ Donut erasers with pink and white icing = $3 + 5 = 8$ Another way to solve: the only erasers she didn't take were brown. Thus, $12 - 4 = 8$ (pink and white)	<i>8 [erasers]</i>
3. Total mini chocolates that were given away = 14 Total mini chocolates were in the bag = $14 + 1 = 15$ 	<i>15 [mini chocolates]</i>
4.  $= 1 + 6 + 6 = 13$ cookies	<i>13 [cookies]</i>
5.  $16 + 12 + 3 + 2 = 33$	<i>33 [coins]</i>
6. Half of her allowance:  Full amount of her allowance:  = \$32 Half of her allowance that was left after buying the binder was \$16. She then spent \$3 on candies; it means she saved $\$16 - \$3 = \$13$	<i>[\$]13</i>
7.  $54 - 38 - 2 = 14$ inches 	<i>14 [inches]</i>
8. Jacket:  } \$100 Hat:  $2 \text{ units} = 100 - 62 = 38.$ $1 \text{ block or 1 unit} = 38 \div 2 = 19$ The jacket price = 1 unit + \$62 = $\$19 + \$62 = \$81$	<i>[\$]81</i>

9.  One unit = $63 \div 7 = 9$
Sugar cookies has 4 units = $4 \times 9 = 36$

36 [sugar cookies]




10. OJ and AJ total: $6300 \text{ ml} - 1800 \text{ ml} = 4500 \text{ ml}$

Orange Juice  } 4500 ml

Apple Juice 



5 units = 4500 ml
1 unit = $4500/5 = 900 \text{ ml}$
Orange Juice: 4 units = $900 \times 4 = 3600 \text{ ml}$



3600 [ml]

11. X  } 154
Y 
Z 

1 unit = $154 \div 7 = 22$
X = 22, Y = 44, and Z = 88
The sum of A and C = $22 + 88 = 110$


110

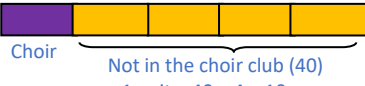
12. Before:  After donating 75 books: 

Brianna 
Carl 

1 unit = $75 \div 5 = 15$ books
Since Brianna was left with 1 unit, then she had **15 books left.**



15 [books]

13. 1) 

2) 5 units (5th graders) 
Choir
Not in the choir club (40)
1 unit = $40 \div 4 = 10$

Number of students in the theatre club = $8 \times 10 = 80$ students



80 [students]

14. Mrs. Eldredge's class  } 72
Mr. Singleton's class 

Did not compete
Did not compete

Let's find the value of 1 unit.
One unit = $72 \div (4+5) = 8$
The total number of students who competed at the tournament = $3 \text{ units} = 3 \times 8 = 24$
Or when we analyze the model drawing, $1/3$ of the students competed, thus $1/3 \times 72 = 24$


24 [students]

15. Larger number  } 20.6
Smaller number 

$20.6 - 7.5 = 13.1$
 $13.1 \div 2 = 6.55$
The smaller number is 6.55 and the larger number is $6.55 + 7.6 = 14.05$.
Therefore, the product must be: $6.55 \times 14.05 = 92.0275$.


92.0275


16. Perimeter: 2 lengths + 2 widths




$W = (100\% - 30\% - 30\%) \div 2 = 20\%$
Since 20% worth 24 cm, then 10% worth 12 cm.
Since the length is 30% and 10% worth 12 cm, $L = 3 \times 12 = 36 \text{ cm}$.
The area of the rectangle = $36 \text{ cm} \times 24 \text{ cm} = 864 \text{ cm}^2$

864 cm²

17. Jar of jellybeans at the beginning: 

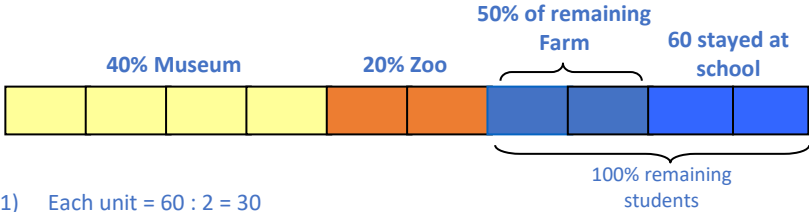
After some jellybeans removed: 

What's left: 

What's left are 10 units. One out of 10 units or $\frac{1}{10}$ is red jellybeans.

$\frac{1}{10}$

18. Draw a model with a unit bar that is divided into 10 equal parts:



1) Each unit = $60 : 2 = 30$
 2) Number of students: $10 \text{ units} = 30 \times 10 = 300$

300 [students]

Solution is available on January 21, 2022, at www.mathinaction.org