





# Math Challenge #3

## Candies, Cupcakes, Brownies!

**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.**

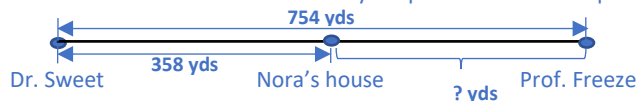
*Answer*

1.	<p>Tommy has 6 candies that he would like to share equally with his sister, Annabel. How many candies will Annabel receive from Tommy?</p> <p><i>Annabel will receive 3 candies from Tommy.</i></p>		3 [candies]
2.	 <p>Jessica brought 3 Butterfinger cupcakes to share. Tina brought 4 Caramel Apple cupcakes, and Lina brought 4 Chocolate Mint cupcakes to share. How many cupcakes were there altogether?</p> <p><i>Altogether: 3 + 4 + 4 = 11 cupcakes</i></p>		11 [cupcakes]
3.	<p>Luna had 5 more candies than Donna. If Donna had 6 candies, how many candies do they have altogether?</p> <p><i>Donna had 6 candies; Luna had 5 more candies than Donna: 6 + 5 = 11 candies.</i>  <i>Altogether: 6 + 11 = 17 candies.</i></p>		17 [candies]
4.	<p>One lollipop cost \$1 and two chocolate bars cost \$4. How much is the total cost for 2 lollipops and one chocolate bar?</p> <p><i>Two lollipops: \$2</i>  <i>Since two chocolate bars cost \$4, then 1 chocolate bar cost \$2.</i>  <i>Therefore, two lollipops and one chocolate bar cost \$2 + \$2 = \$4.</i></p>		\$4
5.	<p>Bianca, Julia, and Avery each got a bag with 10 candies in it. Each girl gave 1 candy to her teacher and ate 2 candies. Then they placed all the leftover candies into a bucket. How many candies were there in the bucket?</p> <p><i>Each girl would have: 10 - 1 - 2 = 7 candies left. Altogether: 7 x 3 = 21 candies.</i></p>		21 [candies]
6.	<p>There are some orange and black gumballs in a jar. The number of black gumballs is twice the number of orange gumballs. If there are 5 orange gumballs, how many total gumballs are in the box? <i>Total gumballs: 5 + (2 x 5) = 15 gumballs.</i></p>		15 [gumballs]
7.	<p>The first graders are lining up for free ice-cream. Two out of three students in front of Susan are boys. Four out of the nine students behind her are girls. How many girls are lining up for the free ice-cream?</p> <p><i>There are 3 students (2 boys, 1 girl) in front of Susan. There are 9 students (5 boys, 4 girls) behind Susan.</i>  <i>There are 1 + 4 + 1 (Tonya) = 6 girls.</i></p>		6 [girls]

8. The distance between Dr. Sweet Candy Shop and Nora's house is 358 yards. The distance between Dr. Sweet Candy Shop and the Professor Freeze Ice Cream Shop is 754 yards. What is the distance (in yards) from Nora's house and the ice cream shop if Nora's house lies between the candy shop and the ice cream shop?

Draw it out:

Nora's house lies between the candy shop and ice cream shop:



Distance from Nora's house to the ice cream shop:  
 $754 - 358 = 396$  yards

396 [yards]

9. The total number of candies in both jars is 196. There are 108 pink candies. The number of blue candies is the same in both jars. What is the amount difference between the two colors candies in the right jar?



Since there are 196 in both jars, the number of blue candies in one jar must be:  $(196 - 108) \div 2 = 44$ . The amount difference

between the two colors candies:  $108 - 44 = 64$  candies.

64 [candies]

10. Sonya made a large pan of brownies. He cut the brownies into 5 rows with 6 brownies in each row. How many brownies have no crispy edges?



The middle section will be 3 rows with 4 brownies in each row:  $3 \times 4 = 12$  brownies

12 [brownies]

11. Victor has two dozen cupcakes. He sells  $\frac{2}{3}$  of the cupcakes for \$3.25 each. He sells the remaining cupcakes for \$2.50 each. How much money does Victor make from selling the cupcakes?

Two dozen cupcakes =  $2 \times 12 = 24$  cupcakes. Two-third of the cupcakes =  $\frac{2}{3}$  of 24 =  $\frac{2}{3} \times 24 = 16$  cupcakes.

Victor sold 16 cupcakes for \$3.25 each and 8 cupcakes for \$2.50 each.

Victor makes:  $(16 \times \$3.25) + (8 \times \$2.50) = \$52 + \$20 = \$72$

\$72

12. Tommy has just delivered 5 dozen cookies to a party located in a certain floor of an apartment building. He then entered the elevator and moved up 6 floors, down 4 floors, and up 3 floors. He was then at floor 7. At which floor did he deliver the cookies?

$? + 6 - 4 + 3 = 7 \rightarrow$  work backward  $\rightarrow 7 - 3 + 4 - 6 = 2$

Floor 2

13. The cost of a Halloween cake to be delivered is \$79. If the cake cost \$61 more than the delivery fee, how much is the delivery fee?



Delivery fee:  
 $(\$79 - \$61) \div 2 = \$9$



\$9

14. Getting home from trick or treat, Celia and Emma counted their candies. Half of Celia's candies is equal to  $\frac{2}{3}$  of Emma's candies. They had a total of 105 candies altogether. How many candies did each of them have?

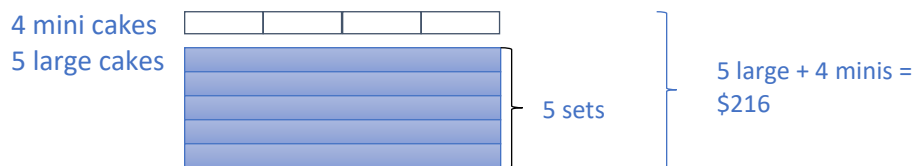


1 unit of Emma's candies =  $105 \div 7 = 15$   
 Emma's candies (3 units) =  $15 \times 3 = 45$   
 Celia's candies (4 units) =  $15 \times 4 = 60$

Celia: 60 candies  
 Emma: 45 candies

15. Mr. Moore paid \$216 for 5 large cakes and 4 mini cakes. One large cake cost 4 times as much as a mini cake. How much did one mini cake cost?

\$9



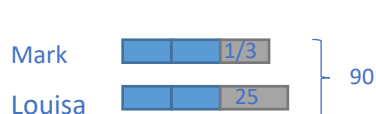
The large cake cost:  $\frac{216}{6} = \$36$

The mini cake cost:  $\$36/4 = \$9$

Or you can split every large cake into 4 mini cake units. You'll get 20 units from large cakes and 4 units for 4 mini cakes → 24 units.  $\$216 \div 24 = \$9$  is the cost 1 mini cake.

16. At the beginning of the year, Mark and Louisa had 90 candies altogether. After Mark ate  $\frac{1}{3}$  of his candies and Louisa ate 25 of her candies, they both had an equal amount of candies left. How many candies did each of them have at first?

Mark: 39 [candies]  
Louisa: 51 [candies]



From the drawing, we know that 5 units + 25 = 90.

Therefore, 5 units =  $90 - 25 = 65$

1 unit =  $65/5 = 13$

Mark (3 units):  $3 \times 13 = 39$

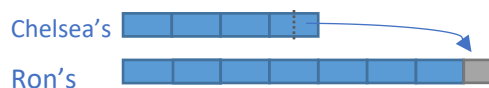
Louise (2 units + 25) =  $2 \times 13 + 25 = 26 + 25 = 51$

17. In two hours of trick-or-treating, Ranya, Codie and Jessica filled six bags with treats. Together, they visited the same number of houses and received the same number of treats. At this rate, how many bags of treats could Jessica fill alone, in one hour of trick-or-treating? If the three friends fill six bags in two hours, then, together, they fill three bags per hour. Since each person does  $\frac{1}{3}$  of the work, it follows that, working alone, Joy could fill **one** bag in one hour of trick-or-treating.

One [bag]

18. The ratio of Chelsea's candies to Ron's candies is 4:7. Chelsea gives  $\frac{1}{8}$  of her candies to Ron, and Ron now has 120 candies. How many candies did Ron have before Chelsea gave him some candies?

112 candies



Chelsea's: Ron's = 4 : 7 or 8 : 14

Chelsea gave 1 unit or  $\frac{1}{8}$  of her candies, now their ratio is 7 : 15.

Since 15 units = 120 → 1 unit =  $120/15 = 8$

Chelsea gave Ron 8 candies.

Before getting the 8 candies, Ron had  $120 - 8 = 112$

Solution is available on November 8, 2019 at [www.mathinaction.org](http://www.mathinaction.org)

**Don't forget to sign up to participate at the  
2019 MCT**