



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

Valentine's Day and More

Welcome to Math Challenge #9. February is full of surprises, chocolates and festivities. We celebrate Valentine's Day, the 100th day of school, and other fun events. In Math Challenge, you will solve math problems involving the many events that we celebrate in February. Enjoy the challenge!

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. Mrs. Forrester bought 15 heart-shaped balloons to decorate the classroom for her class Valentine's party. While carrying them from her car to the classroom, one popped and three flew away. How many balloons are left for the class decoration?	
2. Rosanna bought a bag of mini chocolates to give out to her friends in her science club. She gave two pieces to each of her friends and had one piece of mini chocolate left over. If she has 7 friends in the science club, how many mini chocolates were in the bag?	
3. On the 100 th day of school, Mia, Milo and Doan each brought 100 pieces of rigatoni pasta for show and tell at school. If Mia, Milo and Doan put their pasta together, how many total pieces of rigatoni pasta were there?	
4. Each of the eleven students in Mrs. Zhang's class brought 3 balloons to decorate their class. Twenty of the balloons are pink and red, and the rest are white and yellow. Mrs. Zhang placed the twenty balloons that are red and pink by the entrance door, and she put the rest scattered around the classroom. How many balloons were scattered around the room?	
5. The Super Bowl this year is on Sunday, February 12 th , 2023. a. What is the full date of the Sunday the week before the Super Bowl? b. How many Sundays are there in February 2023? c. What day is the last day in February 2023?	a. b. c.

6. There are 11 heart balloons along the hallway wall. The distance between each pair of heart balloons is 2 feet. How long is the distance from the first balloon to the last balloon at the end of the wall?



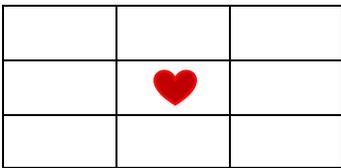
7. Marta was making Valentine's bracelets. She took 7 strings and made the following pattern of beads on each string: Red, White, Red, White, Red, ... Each bracelet is made from one string and 11 beads, and beads of the same color do not touch. How many red beads in all did she use for the seven bracelets?

8. Ethan bought lollipops for everyone in his running club. He bought six boxes of lollipops and each box contained 20 lollipops. There are thirty-five students in his running club. If Ethan wants everyone to have an equal number of lollipops, what is the greatest number of lollipops he can give each student?



9.  If the 100th day of school falls into a Wednesday, what day of the week was the 50th day of school?

10. How many rectangles of any size containing  are in the following figure?



11. Leanne uses 1 heart sticker to make figure 1, 3 heart stickers to make figure 2, and 6 heart stickers to make figure 3. If she continues the same pattern, how many heart stickers will she need for the first 6 figures altogether?

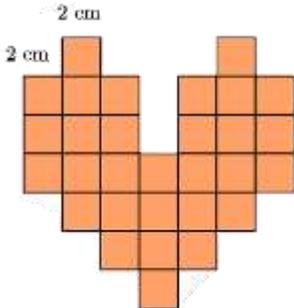




Fig. 1 Fig. 2 Fig. 3

12. Arisha and her friends went to the 'Escape Room' to celebrate Valentine's Day. In the Escape Room, they solve Valentine-related puzzles. They found 5 boxes in the shape of hearts and 5 different keys. Each key only unlocks one of the boxes. In the worst-case scenario, what is the biggest number of tries are needed to open all the boxes?



<p>13. Each of the twenty-six students in a 5th grade class prepared exactly one Valentine card for each other. How many Valentine cards were created in this class?</p>	
<p>14. This year, Super Bowl LVII on Sunday, 12 February 2023. What year was the 10th Super Bowl held? Hint: Find out what the Roman numeral LVII represents.</p>	
<p>15. Ananya is shopping for a Valentine party at a party supply store. At the store, all punch bowls are sold at the same price and all pitchers are sold at the same price. If Ananya buys one punch bowl and one pitcher, it will cost her \$21.00. If Ananya buys two punch bowls and three pitchers, it will cost her \$51.00. What is the price of one punch bowl in that store?</p>	
<p>16.  For the 100th day of school celebration, students took part in a writing 100-word essay contest. Five students were selected for the final round. In how many ways could the top three winners be selected if there are no ties?</p>	
<p>17. Three sisters are sharing a jar of heart-shaped cookies. Meghan took half of the cookies plus 1 more. Malia took half of what was left plus 1 more. Myra got the remaining 3 cookies. How many heart-shaped cookies were in the jar originally?</p>	
<p>18. The figure below is a heart shape that is made of squares whose sides are of 2 cm each. The shape is then split into six congruent pieces. Find the perimeter, in centimeters, of one of these pieces.</p> <p>The term “congruent” means exactly equal shape and size. The shape and size should remain equal, even when we flip, turn, or rotate the shapes.</p>	

Solution is available on February 17, 2023
www.mathinaction.org