First Name: _____ **Last Name:** _____ **Grade:** _____

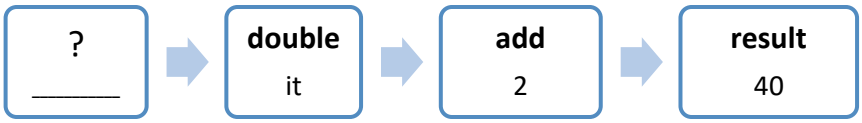
Teacher: _____ **Parent's email:** _____

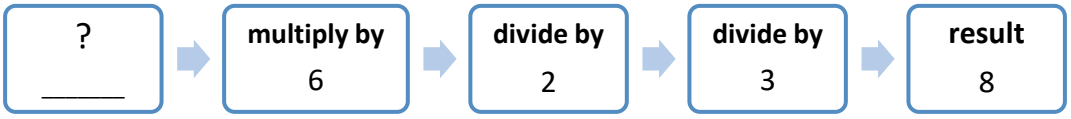
Working Backwards

Welcome to Math Challenge #1. We are starting the first Math Challenge with Working Backwards strategy. Many real-life problems, not just in mathematics, can be solved using this strategy. For example, if you lose a toy, you can retrace your steps. In the same manner, a police officer can figure out what happened at a traffic accident, or a criminal investigator can rebuild a crime scene and connect the evidence to the crime.
You may use the work-backwards strategy to solve the following simple math problems as well as the story problems in this Math Challenge. Start with the end result and undo each step or reverse the operation on each step. If you are new to the Math Challenge, feel free to learn about the different problem-solving strategies at http://www.mathinaction.org/problem-solving-strategies.html. Good luck!

Kinder & First Grade: solve <u>at least</u> 3 problems.
Second & Third Grade: solve <u>at least</u> 7 problems.
Fourth Grade and above: solve <u>at least</u> 12 problems.

		Answer
1.	Lynn's mom gave Lynn some lunch money. After spending $3 on a sandwich and $1 on milk, she still has $2. How much was her lunch money?	
2.	After Connor gave 4 toy cars to Ben and 1 toy car to Melissa, he now has 3 toy cars. How many toy cars did he have at the beginning?	
3.	Gina lost half of her pencils. She now has only 4 pencils. How many pencils did she have before?	
4.	Sam collects baseball cards. He gave 6 cards to his brother. He then got 4 new cards from his father. Sam now has 12 cards. How many baseball cards did he have before giving some to his brother?	
5.	? _____ → **add** 7 → **result** 16	
6.	Sandra made some muffins yesterday. Today she made 6 more muffins than yesterday but ate 3 of them. She gave two muffins to her sister Anna. She now has 15 muffins left. How many muffins did she bake yesterday?	
7.	? _____ → **add** 10 → **subtract** 7 → **result** 16	
8.	Caitlin had some money. After her shopping spree at Redmond Town Center, she had $5 left. She bought a new pair of shoes for $48, 2 pairs of jeans at $19 each, and 2 t-shirts at $13 each. How much did she have at the beginning?	

9. 

10. 

11. Paul is trying to set his alarm clock for tomorrow morning. He needs 30 minutes to get ready for school and it takes him 10 minutes to bike to school. If school starts at 8:40 a.m., and he would like to be 5 minutes early, what is the time he should set his alarm clock?

12. Monica gave 10 cookies to both Sandy and Rony. She then gave 14 cookies to Emma and 6 cookies to Grace. She still had 91 cookies left. How many cookies did Monica have at the beginning?

13. Three people went strawberry picking and picked 65 strawberries in total. At the first plant they each picked the same amount of strawberries. At the second plant they each collected three times the amount that they had collected at the first plant. After picking from the third plant they had five times the amount they had after picking strawberries from the first two plants. At the fourth plant they collected only five strawberries altogether. How many strawberries did each person collect at the first bush?

14. Sanika delivered a total of 126 papers last week. If she delivered twice as many papers on each day of the weekend as she does on each day of the week, how many papers does she deliver on Sunday?

15. If two sides of a square field were increased by five feet, as seen in the diagram, the area of the field would increase by 245 square feet. Find the area of the original square.