Math Challenge #3

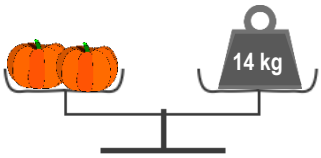
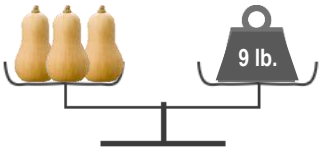
First Name: _____ **Last Name:** _____ **Grade:** _____

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

All Things Fall

Welcome to the Math Challenge #3. There are many things happening in fall. Fall marks the transition from summer to winter. Leaves start to change color, and they start to fall off the trees. The weather gets cooler, the birds migrate south, and some animals hibernate for the winter. In this challenge, we solve problems associated with fall. Enjoy the fall weather, fall fruits and vegetables, and other fall tasty treats like caramel apples and pumpkin pies. Grab your parents and siblings to help you solve as many problems as you can. Good luck!

Kinder & First Grade: solve <u>at least</u> 3 problems.
Second & Third Grade: solve <u>at least</u> 6 problems.
Fourth Grade and above: solve <u>at least</u> 12 problems.

		Answer
1.	Solve the mystery numbers under the leaves: a.  + 6 = 13 b. 5 +  = 14 c.  + 3 = 11 d. 7 +  = 12	*a. 7* *b. 9* *c. 8* *d. 5*
2.	Solve the mystery numbers covered by the ghosts. a. 11 -  = 4 b.  - 4 = 4 c. 12 -  = 4 d.  - 6 = 4	*a. 7* *b. 8* *c. 8* *d. 10*
3.	Luisa was collecting canned food for the Food Drive from her neighbors. At the first house, she collected 4 cans of soup, at the next house she collected 2 cans of beans and 3 cans of vegetables. How many cans of food did she collect so far if she picked up 3 cans of peaches at the third house? 4+2+3+3 = 12 cans	*12 [cans of food]*
4.	Study the balance scales. When the two pans have things with equal weights, the scale stays balanced, not tipping to one side. a. One pumpkin weighs _____kg.  b. One squash weighs _____ lb. 	*a.*  *= 7 [kg.]* *b.*  *= 3 [lb.]*
5.	Mrs. Johnson's second grade class has turned their classroom into a haunted house for the school's Halloween party. They have invited students from other classes to come and visit. In the first hour, 16 students from Mr. Lee's class and 21 students from Mrs. Anderson's class came to visit. In the second hour, 78 students went through the haunted house. How many students in total visited the haunted house? 16 + 21 + 78 = 115	*115 [students]*

6.	Jessica is supposed to deliver an Autumn wreath to an office in a ten-story building. She gets on to the fourth floor then realizes that is the wrong floor. She then rides to the top floor. She then goes down seven floors, rides up four floors and realizes that she completely lost. After riding down five more floors, in which floor is Jessica now?  4 + 6 – 7 + 4 – 5 = 2.	*2*
7.	 Angela is carving pumpkins and selling them to her neighbors for Halloween. She is charging $7.00 per pumpkin. On Saturday, she sold 9 pumpkins. On Sunday, Angela sold 14 pumpkins. How much money did Angela earn in total? $7 × (14+9) =$7×23 = $161	*$161*
8.	The following board shows the trading rules used at Harry's Harvest market. How many pumpkins can Peter get for 8 sweet potatoes at Harry's Harvest market? **3 pears = 2 pumpkins** **4 butternut squashes = 1 pear** **3 butternut squashes = 2 sweet potatoes** 8 sweet potatoes worth the same as 4 x 3 butternut squashes or 12 butternut squashes. Since 4 butternut squashes equal to 1 pear, 12 butternut squashes will equal to 3 pears. 3 pears equal to 2 pumpkins, therefore 8 sweet potatoes equal to 2 pumpkins.	*2 [pumpkins]*
9.	Five jars of the same type contain a total of 75 spooky-eye-gumballs. How many spooky-eye-gumballs do such 8 jars contain? 75÷5=15 gumballs in 1 jar 15×8=120 spooky-eye-gumballs	*120*
10.	Tommy made $81 from baking and decorating 3 Halloween cakes. How many cakes does he need to bake and decorate to earn $135? Tommy made $81/3 = $27 from baking and decorating 1 cake. To earn $135, he needs to bake and decorate: $135/27 = 5 Halloween cakes.	*5 [Halloween cakes]*
11.	Sarah is arranging beautiful Calla Lily flowers for the Harvest party. She has 7 vases. She wants at least 3 Calla Lilies in each of her 7 vases, and she wants the number of flowers in each vase to be different. What is the minimum number of Calla Lilies does Sarah needs?  For the first vase, she needs 3 flowers, for the 2nd vase, she needs 4 flowers, for the 3rd vase, she needs 5 flowers, and so on. Therefore, the minimum number of Calla Lilies that Sarah needs is 3 + 4 + 5 + 6 + 7 + 8 + 9 = 42.	*42 [Calla Lilies]*
12.	Shawn Spud is preparing to harvest his crop of potatoes to sell to the local grocery stores in time for Thanksgiving. His field has 210 rows of potato plants with 342 potato plants in each row. Shawn estimates that they will harvest the entire field in 18 hours. How many potatoes plants will his crew harvest each hour? The number of potatoes plants in all: 210 rows x 342 potato plants = 71,820. In 18 hours they harvest 71,820; in one hour, they harvest: 71,820/18 hours = 3,990.	*3,990 [potatoes plants]*
13.	Getting ready for football season, Jason and Scott shopped for some football items. Jason bought two footballs and a helmet that cost him $40. Scott bought two helmets and a football that cost him $47. What is the cost of each item?  f + f +h = $40 f + h + h = $47 if you add both lines, you'll get what both Jason and Scott bought f + f + f + h + h + h = $87 As you can see there are three sets of helmet and football f + h = $87 ÷ 3 = $29 football costs = $40 - $29 = $11 helmet costs = $47 - $29 = $18	*Football: $11* *Helmet: $18*

14.	Team managers predict a crowd of about 2500 for Friday's football game. About how many packages of cups should the concession stand manager plan to order, if the cups come five dozen to a package? Based on the past data, an average of one drink per person was consumed. Convert dozens to number of cups per package: 5 x 12 =60 cups; then divide 2500 by 60 to get the number of packages. The quotient is 41.667 pkgs. which must be rounded to 42 as you cannot buy a part of a package.	*42 [packages]*
15.	Red's clothing store is having a Black Friday sale. "Take an extra 1/3 off the already reduced price!" When Jenna was about to buy a dress that had been reduced from $78 to $52, the clerk advised her to wait for a day when a new sale would announce 50% off the original price. Should Jenna wait or buy the dress now? Today the dress will cost 2/3 of $52 = $34.67. Tomorrow the dress will cost ½ of $78 or $39. She should not wait since $34.67 is less than $39.	*Buy now*
16.	There were 3 times as many girls as boys signed up for a pumpkin carving competition. On the day of the competition, 9 girls who signed up for the competition didn't show up, but all boys signed up for the competition showed up. At the end, there were twice as many girls as boys in the pumpkin carving competition. How many students actually participated in the competition? 	*27 [students]*

Solution is available on November 02, 2018 at www.mathinaction.org
Don't miss the Math Challenge Tournament this year!