Math Challenge #4

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

Fall Season

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.	Emma is collecting colorful leaves during the fall. On Monday, she collects 7 red leaves, 4 orange leaves, and 3 yellow leaves. How many leaves did Emma collect in total? 7 + 4 + 3 = **14**	*14 [leaves]*
2.	a. If she has 10 pumpkins, what is the greatest number of groups of 3 can she create? **3** b. How many pumpkins will be left over? **1**	*a. 3* *b. 1*
3.	9 + 4 + 7 = **20**	*20*
4.	Notice that even though the farmer has 5 rows of corn, he only harvests 3 rows of them. So, since each row yields 15 pounds of corn, he harvests 15 + 15 +15 = **45 pounds of corn.**	*45 [pounds]*
5.	The number of apples they collect: 14 + 21 = 35 apples. The number of apples they give away and use: 16 + 8 = 24 apples. The number of apples they have left: 35 − 24 = **11 apples.**	*11 [apples]*
6.	To bake 7 pies, she needs 7×3 = 21 cups of pumpkin puree. Since she has 5 cups already, she needs 21 − 5 = **16** more cups to make all the pies.	*16 [cups] or 16 [more cups]*
7.	4 + 6 − 7 + 4 − 1 = **6.**	*6th [floor]*
8.	The number of cookies she bakes: 24 + 18 = 42 cookies. The number of cookies she gives away: (4×8) + 5 = 32 + 5 = 37 cookies. The number of cookies she has left: 42 − 37 = **5 cookies.**	*5 [cookies]*
9.	The fraction of the yellow apples: $1 - \frac{3}{4} - \frac{1}{5} = \frac{1}{20}$ $\frac{1}{20}$ of 300 = **15 yellow apples** Another way: ¾ of 300 = 225 green apples, 1/5 of 300 = 60 red apples. 300 - (225 + 60) = **15 yellow apples**	*15 [yellow apples]*
10.	8 sweet potatoes worth the same as 4 x 3 yams or 12 yams. Since 4 yams equal to 1 pear, 12 yams will equal to 3 pears. 3 pears equal to 2 pumpkins, therefore 8 sweet potatoes equal to **2 pumpkins.**	*2 [pumpkins]*
11.	Cost of pies: (20×$3) + (5×$50) = $60 + $250 = $310 The number of pies for selling: 20 apple and 5×12 = 60 pumpkin The amount of money they collect if they sell out: $10×(20+60) = $800 Profit to keep: $800 - $310 **= $490**	*[$]490 or [$]490.00*

12.		Roundtrip distance: 120 + 120 = 240 miles. Their car needs 240 ÷ 30 = 8 gallons for the trip. The cost for gas: $4.95 × 8 gallons = **$39.60**	*$39.60*
13.		2/3 of 75 pumpkins = 50 pumpkins. 75 − 50 = 25 pumpkins left. 3/5 of 100 apples = 60 apples. 100 − 60 = 40 apples left. 4/5 of 45 green peppers = 36 green peppers. 45 − 36 = 9 green peppers left. Total produce left: 25 + 40 + 9 = **74** Another way: Finding the fraction of leftover items: (1/3 × 75)+(2/5 × 100)+(1/5×45) = 25+40+9 = **74.**	*74*
14.		Apples: $0.75 × 90 = $67.50; pears: $1.25 × 50 = $62.50; plums: $200 − ($67.50+$62.50) = $70.00 The number of plums they sell: $70 ÷ $0.50 = **140 plums**.	*140 [plums]*
15.		The land measures 40 by 60: 40×60 = 2400 sq feet. The leaves cover 2400 − 1850 = 550 square ft. Each hour they raked: 550/2.5 = **220 square feet** of leaves.	*220 [ft²] or 220 [sq. feet]*
16.		⬤ + ⬤ + 🪖 = $60 🪖 + 🪖 + ⬤ = $72 If you add all items, you'll get what both Koji and Salem bought. ⬤ + ⬤ + ⬤ + 🪖 + 🪖 + 🪖 = $132. As you can see there are three sets of (⬤ + 🪖). ⬤ + 🪖 = $132 ÷ 3 = $44 The football costs = $60 - $44 = **$16** The helmet costs = $72 - $44 = **$28**	*Football: $16* *Helmet: $28*
17.		At the first tree, they picked (84 − 24) ÷ 4 = 15 apples. Since each individual picked the same number of apples, each must have picked 15 ÷ 3 = **5 apples**. Another way: If each person picked the same amount of apples. It means that each person picked 84/3 = 28 apples at all three trees. At the third tree one person picked 24/3 = 8 apples. It means 28 − 8 = 20 apples were picked by one person at the first and second tree. 1 unit: 20/4= 5 apples Each person picked 5 apples at the first tree.	*5 [apples]*
18.		The two-hour trip is divided into thirds, 40 minutes each. Speed is given in miles per hour, 40 minutes = 40/60 = 2/3 hour Distance = Speed × Time During the first third, they averaged 66 miles every 60 min. d_1 = (66) × 2/3, d_1 = 44 miles. During the second third, they averaged 42 miles every 60 min. d_2 = (42)×2/3, so d_2 = 28 miles. During the last third, they averaged 30 miles every 60 min. d_3 = (30)×2/3, so d_3 = 20 miles. Total miles traveled: 44 + 28 + 20 = **92 miles.**	*92 [miles]*