****5th Grade Enrichment Math Menu Problems – Multiplication

**Main Course Choices** – Choose one problem to solve and present to your teacher & a group of your classmates.

**Requirements:** Product Choices: Google docs or Google Presentation (must be shared with your teacher and named as following: last name, first initial, title of project chosen) or a Paper (must be on blank white paper, no lines)

* First slide or front of Paper must include your name and the problem title
* Must be creative, neat, and colorful
* Must include the complete problem and the answer
* Must include number sentence(s) or equation(s)
* Must show all the work of multiplication (A calculator may only be used to check your work). The following is a number sentence but is NOT considered showing work: 28 x 39 = 1092
* Must include a written explanation of the strategy you used and how you solved the problem, including the resources you used and how they were of help to you

1. **Special 24**: The number 24 is special because it is just one short of being a square number. So 24+1=25 and 52 =25 AND when you double 24 the answer is also one short of being a square number. So 24×2=48 and 48+1=49 and 72 =49. Find another number that is special in the same way as 24.

2. **One Wasn’t Square**: Mrs. Morgan, the class's teacher, pinned numbers onto the backs of three children: Mona, Bob and Jamie. "Now", she said, "Those three numbers add to a special kind of number. What is it?" Michael put his hand up. "It's a square number", he answered. "Correct", smiled Mrs. Morgan. "Oh!" exclaimed Mona, "The two numbers I can see also add to a square!" "And me!" called out Bob, "The two numbers I can see add to a square too!" "Oh dear", said Jamie disappointedly, "the two numbers I can see don't add to a square! It's either 5 too little or 6 too big!" What numbers did the three children have on their backs? Hint: All the numbers, including the squares, are less than 40.

3. **Bowls and Plates**: Mrs. Robinson bought 20 bowls and plates for $96. Each bowl cost $4.50 and each plate cost $1.50 more than a bowl. She bought more bowls than plates. How many bowls and how many plates did she buy?

4. **How Many Legs?**: Once upon a time there were 7 farmers. Each farmer had 7 bushels. In each bushel were 7 cats and each cat had 7 kittens. How many legs were there in all?

5. **Rooster, Goose, and Duck**: In the 1870's, on a farm along the Ohio River, a girl was presented with three gifts: a rooster, a goose, and a duck. The duck cost $0.20 . The rooster and the goose together cost twice as much as the duck. The goose and the duck together cost three times as much as the rooster. How much did the goose cost alone?

6. **Donut Cost**: Twelve people each bought 12 dozen donuts. If each donut cost 12 cents, what was the total cost of all the donuts?

7. **Mystery Product**: Here is a multiplication problem with some digits missing. Can you figure

out what they are and prove it?

**Dessert Problem Choices** – After completing one main course menu problem,

choose a dessert problem to solve.

1. **So Many Legs**: Five cats each had five kittens. The cats and kittens each had five fleas. Each flea had five tiny spiders on it. How many legs are there altogether?

2. **Fire Hose**: The Weston Fire Department had 28 engines that each had 7 hoses. If each hose was 150 feet long, how many feet of hose does the fire department have?

3. **Pumpkin Patch**: Beth buys her pumpkins at Sleepy Hollow Farm. They charge $.68 a pound. She buys one that weighs 9 pounds, one that weighs 12 pounds, and one that weighs 8.5 pounds. How much does she spend?

4. **Scary Hairy Ghouls**: 8 ghouls each had 8 hands. Each hand had 8 warts and each wart had 8 hairs. How many hairs were there? Show this in exponential form and solve.