November Problems

Name: _____

1. Mrs. Phillpott is a cook for the Thornberry family. She usually makes a 5 pound roast for dinner on Thursdays. She knows that it takes 2 1/2 hours to cook this roast. Her boss is having a dinner party and she needs to make more food. She decides that she needs 15 pounds of meat. The problem is that she only has one oven and it will not hold a roast bigger than 10 pounds. How could she solve this problem? Answer in paragraph form.

2. Sadie went to the store with a $10 bill. She spent $4.76. Give 6 possible ways she could get her change. She cannot use the same number of coins twice. (You cannot say 5 one dollar bills, 2 dimes, 4 pennies, and then a $5 bill 2 dimes and 4 pennies.) She must use each type of United States coin at least once.

3. A farmer grows 196 pounds of potatoes. He sells them to a grocer who divides them into 5 pound and 2 pound bags. If the grocer uses the same number of 5 pound and 2 pound bags, how many bags of each did he use?

4. Mary McDonald makes mugs in Miami. She makes two sizes of mugs: a small mug that she sells for $2.50 and a large mug that she sells for $5.75. Yesterday Mary made $56. Before she opened her shop in the morning, she had 200 mugs in her inventory. At the end of the day she has 188. How many mugs of each price did she sell?

5. Find out how much per ounce each of these sells for. Then arrange them from the most expensive to the least expensive.

Gas	$1.65 per gallon	Snapple	$1.29 for 16 oz.
Gatorade	$1.59 for 20 oz.	Lipton Iced Tea	$1.19 for 16 oz.
Ocean Spray	$2.54 for 30 oz.	Evian Water	$1.49 for 9 oz.
NyQuil	$8.35 for 6 oz.	Pepto Bismol	$3.85 for 4 oz.
Whiteout	$1.39 for .8 oz.	Scope	$$.99 for 1.5 oz.

6. An object weighing 5 pounds on Earth will weigh 2 pounds on Mercury. The Statue of Liberty weighs 225 tons. What would it weigh on Mercury?

7. Farmer Brown is making a garden 14 1/2 feet long and 8 3/4 feet wide. He puts up a fence 23 1/2 feet long and 17 3/4 feet wide. What is the distance from the fence to the edge of the garden?

8. Gretchen is going to "Best Buy" to get a new TV. She already has a cabinet and she wants to be sure that the new TV will fit. Her cabinet is 24 inches wide by 24 inches high by 12 inches deep. She wants to have 1 inches on each side, 1 inch on top and 1 inch behind so the TV will slide in easily. Which of these would be her best choice?

   * ***Volume of 5280 cu. in. w = 22", h = 20"***
   * ***Volume of 5290 cu. in. d = 10", base and height the same***
   * ***Volume of 5566 cu. in. w = 22", d = 11"***

9. Draw a cat, but you may only use regular polygons and you must use at least 6 different ones.

10. Carl is given 24 toothpicks and told to construct a geometric solid. He must use all of the toothpicks. Which solid could he make? Draw a picture to support your answer. How many balls of clay would he need to hold his structure together?

11. Brett has an assignment to paint all of the geometric solids for a museum display. His directions are to use the least amount of colors on each solid, but no sides that touch should be painted the same color. Tell how many colors will be needed for each solid: cube, triangular prism, hexagonal prism, octagonal pyramid, pentagonal pyramid. Is it true that the greater the number of sides, the more colors that are needed? Explain your answer in a few sentences and draw a picture.

12. Six teams are involved in a round robin tournament. In such a tournament, each team plays every other team once and only once. It does not matter who wins the games. Therefore, how many games in all are played? You may want to call your teams A,B,C OR 1,2,3.

13. Oblong numbers can be represented by rectangular arrays in which the number of dots in each row is one more than the number of dots in each column. The first 4 oblong numbers—2, 6, 12, and 20—are represented below. Show the next 5 oblong numbers. How many dots are needed to represent the tenth oblong number?

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**          ***         ****        *****
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14. Monday, the Produce manager, Arthur Applegate, stacked the display case with 80 heads of lettuce. By the end of the day, some of the lettuce had been sold. On Tuesday, the manager surveyed the display case and counted the number of heads that were left. He decided to add an equal number of heads. (He doubled the leftovers.) By the end of the day, he had sold the same number of heads as Monday.
On Wednesday, the manager decided to triple the number of heads that he had left. He sold the same number that day, too. At the end of this day there were no heads of lettuce left. How many were sold each day?

15. Raheem, Cary, and Jamar are having a discussion about which color car is the most popular. Raheem says white, Cary says black, and Jamar says silver. They stood at the intersection of Ridge Avenue and Domino Lane for an hour and kept a count. The results were: black=40; silver=60; white=80. Show 2 different ways that they could display their results.

16. Here are the average temperatures in Hawaii for 7 weeks in 1999 and the same 7 weeks in 2000. Determine which type of graph would be the most appropriate and make it. Don't forget labels, title, and the correct scale. Justify why you chose that type of graph.

1999	87	92	98	99	98	101	90
2000	91	92	99	102	100	88	89

17. There are an equal number of pennies, nickels, dimes, and quarters in a bag. What is the probability that the combined value of the four coins randomly selected with replacement will be $.41? Express your answer as a fraction in simplest form.