Math Concepts Problem Set 5 **Name**_____
Assigned Friday 10/4, due Friday 10/11
No Work Shown, No Credit Given **Period**_____

Problems #1-#4 can be completed on this paper. The work for problems #5-#14 needs to be attached on *a separate piece of paper*.

1. Use your knowledge of place value to place the correct inequality sign (< or >) between each pair of numbers.
a) 5.207 ___ 5.27 **b)** 3.006 ___ 3.06 **c)** 2.408 ___ 2.40

2. a) Round each number to the nearest tenth: 2.563 112.926 48.057

b) Round each number to the nearest hundredth: 2.563 112.926 48.057

3. Write the next four numbers in the pattern. Describe the pattern in words.
a) 8, 12, 16, 20, ___, ___, ___, ___
Pattern:

b) 5, 12, 19, 26, ____, ____, ____, ____,
Pattern:

c) 14, 11, 8, 5, ___, ___, ___, ___
Pattern:

d) 32, 16, 8, 4, ____, ____, ____, ____,
Pattern:

4. Figure out the Secret Number! Fill in the blanks based on the clues.

_____ _____ _____ . _____ _____ _____

The digit in the tens place is the number of sides on a pentagon.
The digit in the thousandths place is a prime number between five and ten.
The digit in the hundredths place is the number of legs on a spider.
The digit in the hundreds place is the number of legs on a dog.
The digit in the tenths place is the number of stars in our solar system.
The digit in the ones place is the product: 23 x 68 x 0.

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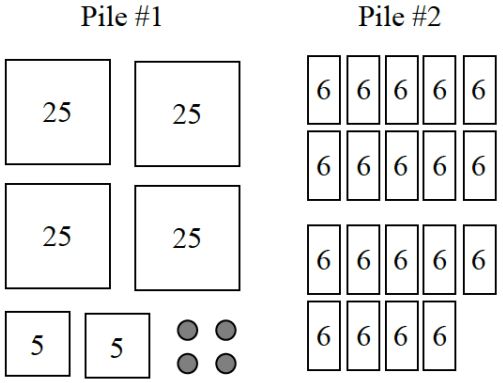
5. Allen would like help comparing two piles of pennies.
The pennies are arranged and represented in the diagrams at right.
a) Write an expression to represent pile #1.
b) Write an expression to represent pile #1.
c) Which pile has more pennies? How do you know?
d) Complete with the correct inequality symbol: Pile #1 Pile #2



6. a) Is 29 prime? Why or why not?
b) Is 39 prime? Why or why not?
c) Is 49 prime? Why or why not?

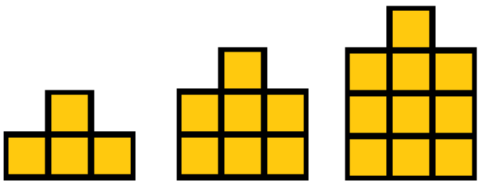


Figure 1 Figure 2 Figure 3

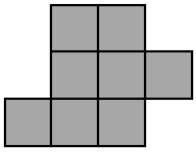
7. a) Draw the 4th , 5th, and 6th figures of this pattern.
b) How is the pattern growing?
c) How many dots will be in the 10th figure?
d) How many dots will be in the 100th figure? How do you know?

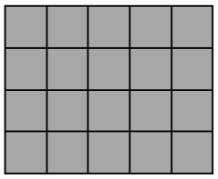
8. How many pennies are represented by each expression below?
a) 3 + 4(5) **b)** 7 + 4(3) **c)** 2(3) + 5 + 4(2)

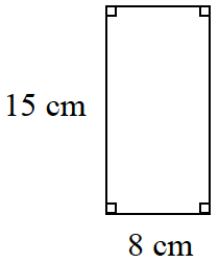
9. a) Draw every possible rectangular array of 30 pennies. Label each of your arrays with its dimensions.
b) List all of the factors of 30.

10. Lena's mother asked her to count the number of pennies in the penny jar. Her mother said, *"I made seven stacks of six pennies each, and there were four leftover pennies."* When Lena counted, she made nine stacks of five pennies each and had two left.
a) Write a numerical expression to represent Lena's way of counting.
b) Write a numerical expression to represent her mother's way.
c) Lena thinks her mother must have been working with fewer pennies than she was. Is Lena correct? Show how you know.
d) Use a < , > , or = symbol to show how the two expressions compare.

11. Find the perimeter and area of each figure below.

a) 

b) 

c) 

d) Sketch at least one way to rearrange the tiles in part (a) so that the shape has a larger perimeter.

12. What number is being described in each of these puzzles?
a) When I multiply my number by 12 I get 60.
b) When I divide my number by 14 I get 4.
c) When I subtract 19 from my number I get 22
d) When I add 24 to my number I get 20.

13. I'm thinking of a number. When I divide it by three and subtract 7, I get zero. What's my number? How do you know?

14. Fill in each blank with either < , > , or = . Justify each answer with a diagram or expression.
a) Six sets of (7 – 4) _____ Three sets of (2 + 4)
b) Three sets of (5 – 1) _____ Four sets of (1 + 1)
c) Five sets of (6 – 3) _____ One set of (9 + 8)