Pre-Algebra Problem Set 8	First Name	Last
Assigned Thursday 10/24, due Friday 11/8		
NO Work Shown, NO Credit Given		Period

Problem #1-2 can be completed on this paper. The work for problems #3-14 needs to be attached on a *separate piece of paper*.

1. Complete each of the Diamond Problems below. The pattern used in the Diamond Problems is shown at right.



2. Complete the generic rectangle below. *What multiplication problem does it represent and what is the product?*



----- Please show work for #3-14 on separate piece of paper. -------3. Simplify each expression below.

- **a**) |-5| + 16 **b**) |-5 + 16| **c**) |(-3) + 4 + (-5)|
- **d**) 6 + |(-2) + (-3)| **e**) -32 + |-3 + 5|

4. Simplify each expression below. Show your work.

a) -5 + 3.25b) 3.18 + (-7)c) $7 + (-3\frac{1}{2}) + (-4\frac{1}{2})$ d) -5.37 + 8 + (-1.89)e) $17\frac{1}{3} + (-50\frac{1}{3}) + 5\frac{1}{3}$

5. Use the Distributive Property to *rewrite* each of the following products as sums, and then calculate the value, as shown in the example below.

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Example:
$$4(327) = 4(300) + 4(20) + 4(7) = 1200 + 80 + 28 = 1308$$

a) $9(413)$ **b**) $6(591)$ **c**) $5(1042)$

6. Complete each portion web below.



7. Camille had a very fun birthday party with lots of friends and family attending. The party lasted for 3 hours. She and her friends played games for $\frac{3}{8}$ of the time, ate pizza and cake for 50% of the time, and spent the remainder of the time opening presents. How much time was spent opening presents?

8. Do you think it matters what order you follow when performing math operations? Investigate this by doing the following problems.

a) For the problem 9 + 2(3) do you get the same final answer if you add first as you do if you multiply first? *Show why or why not*.

b) For the problem $(2 \cdot 4) \cdot 7$ do you get the same final answer if you start with the first two numbers as you do if you start with the last two numbers? *Show why or why not*.

9. **Multiple Choice:** Which of the following numbers could not represent a probability? *Write a sentence explaining why they could not.*

a) $-\frac{1}{10}$ **b**) 1 **c**) 1% **d**) 0.1

10. While going on a field trip, a busload of 54 students will have to be split up into three groups. Two thirds will go to lunch first, and one third will go visit the exhibits. How many will go to lunch first? *Write an equation to represent the problem, and solve it.*

11. Simplify each expression below. Show your work.

a) $25\frac{7}{9} + 42\frac{2}{3}$ **b**) $-68 + 41\frac{9}{11}$ **c**) $-19\frac{5}{8} + 37\frac{4}{5}$ **d**) $-50\frac{1}{6} + 23\frac{3}{4}$

12. Carmen is drawing a card from a standard deck of playing cards. Find each probability below as a fraction. A standard deck has 52 cards, with four suites (diamonds, hearts, clubs and spades). Write each probability as a **fraction**.

a) What is the probability that she will draw a heart?

b) What is the probability that she will not draw a club?

c) What is the probability that she will draw the king of spades?

13. Find the distance between each pair of points if they were graphed on a number line.
a) -27.1 and 53.2
b) 71.54 and -28.3
c) -38.9 and -7.3

