Name _____ Date _____

1. Draw a model. Then, write the numerical expressions.

a. The sum of 21 and 4, doubled

$2 \times (21 + 4)$

b. 5 times the sum of 7 and 23

$5 \times (7 + 23)$

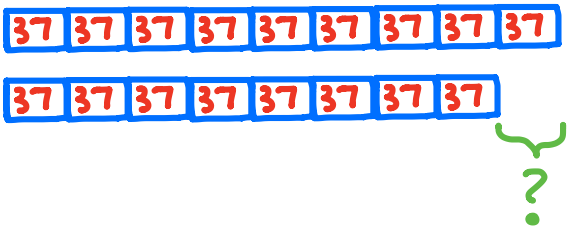
c. 2 times the difference between 49.5 and 37.5

$2 \times (49.5 - 37.5)$

d. The sum of 3 fifteens and 4 twos

$3 \times 15 + 4 \times 2$

e. The difference between 9 thirty-sevens and 8 thirty-sevens



$9 \times 37 - 8 \times 37$

f. Triple the sum of 45 and 55

$3 \times (45 + 55)$

2. Write the numerical expressions in words. Then, solve.

Expression	Words	The Value of the Expression
a. $10 \times (2.5 + 13.5)$	Ten times the sum of 2.5 and 13.5	160
b. $(98 - 78) \times 11$	Eleven times the difference of 98 and 78.	220
c. $(71 + 29) \times 26$	Twenty six times the sum of 71 and 29	2600
d. $(50 \times 2) + (15 \times 2)$	The sum of 50 twos and 15 twos.	130

3. Compare the two expressions using > , < , or = . In the space beneath each pair of expressions, explain how you can compare without calculating. Draw a model if it helps you.

a. $93 \times (40 + 2)$	>	$(40 + 2) \times 39$
93 copies of 42 is greater	than	39 copies of 42.
b. 61×25	>	60 twenty-fives minus 1 twenty-five
61 copies of 25 is greater	than	59 copies of 25.

4. Larry claims that (14 + 12) × (8 + 12) and (14 × 12) + (8 × 12) are equivalent because they have the same digits and the same operations.

   a. Is Larry correct? Explain your thinking.

(14+12) x (8+12) = 26 x 20 = 26 copies of 20 = 520

(14 x 12) + (8 x 12) = 14 copies of 12 plus 8 copies of 12 = 22 copies of 12 = 22 x 12 = 264

Larry is not correct because we know 26 copies of 20 is much larger than 22 copies of 12.

   b. Which expression is greater? How much greater?

(14+12) x (8+12) is greater than (14x12)+(8x12) by 256.

$$\begin{array}{r} {}^{4}\cancel{5}\,{}^{11}\cancel{2}\,{}^{10}0 \\ -\ 2\,6\,4 \\ \hline 2\,5\,6 \end{array}$$