NAME _____ DATE _____ PERIOD _____

1-2 Enrichment

The Four Digits Problem

One well-known mathematics problem is to write expressions for consecutive numbers beginning with 1. On this page, you will use the digits 1, 2, 3, and 4. Each digit is used only once. You may use addition, subtraction, multiplication (not division), exponents, and parentheses in any way you wish. Also, you can use two digits to make one number, such as 12 or 34.

Express each number as a combination of the digits 1, 2, 3, and 4.

1 = $(3 \times 1) - (4 - 2)$

2 = _____

3 = _____

4 = _____

5 = _____

6 = _____

7 = _____

8 = _____

9 = _____

10 = _____

11 = _____

12 = _____

13 = _____

14 = _____

15 = _____

16 = _____

17 = _____

18 = _____

19 = $3(2 + 4) + 1$

20 = _____

21 = _____

22 = _____

23 = $31 - (4 \times 2)$

24 = _____

25 = _____

26 = _____

27 = _____

28 = _____

29 = _____

30 = _____

31 = _____

32 = _____

33 = _____

34 = _____

35 = $2^{(4+1)} + 3$

36 = _____

37 = _____

38 = _____

39 = _____

40 = _____

41 = _____

42 = _____

43 = $42 + 1^3$

44 = _____

45 = _____

46 = _____

47 = _____

48 = _____

49 = _____

50 = _____

Does a calculator help in solving these types of puzzles? Give reasons for your opinion.

_____

_____

_____