Learning Outcomes Covered:
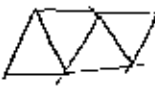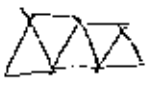
4A: I can recognize and extend a pattern using a drawing, a table of values (TOV), words, and by writing an equation.

CONTENT Assessment Questions:

1. Look at the pattern shown below and answer the following questions.

Figure	1	2	3	4	5
	△	◁▽	◁▽△	◁▽△▽	◁▽△▽△
Number of toothpicks	3	5	7	9	11

a) How many toothpicks will there be in the 4th and 5th pattern? Draw it out.

b) Describe the pattern in words.

As the figure number goes up by 1, the number of toothpicks required also increase by 1.

c) Complete the table and create an equation that relates the figure number to the amount of toothpicks.

Figure Number "n"	Number of Toothpicks, "t"
1	3
2	5
3	7
4	9
5	11
"n"	$t = 2n + 1$

d) How many toothpicks can be found in the 200th figure?

$$t = 2(200) + 1$$
$$= 400 + 1$$
$$= 401$$

e) Which figure number has 143 toothpicks?

$$143 = 2n + 1$$
$$ -1 \quad\quad -1$$
$$\frac{142}{2} = \frac{2n}{2} \quad\quad \therefore n = 71$$

CURRICULAR COMPETENCIES Questions:

1. Rachel takes care of homes during the summer while their owners are away on vacation. She charges $8, plus $2.50 a day.   (RA)
   a) Create a table that shows the charges when the owners are away for up to 5 days.
   b) Write an equation that relates the charge, C dollars, to the number of days, n, that the owners are away. How could you check that your equation is correct?
   c) How many days were the owners away when the charge was $33? How could you check your answer?

a)

# of days	charge ($)
1	10.5
2	13
3	15.5
4	18
5	20.5

6	23
7	25.5
8	28
9	30.5
10	33

b) $C = 8 + 2.5n$.
I can check by plug in values.

c) $33 = 8 + 2.5n$.
$-8 \quad -8$

$$\frac{25}{2.5} = \frac{2.5n}{2.5}$$

$\boxed{n = 10 \text{ days}}$

I can check by extending the table.

ONGOING LEARNING ACTIVITIES:

CORE: Page 159: Curricular Competencies: 10, 12, 15
$\qquad\qquad\qquad$ Content: 11, 14, 16, 17, 18
ADVANCED: Page 161: 19, 21