

# THE BORDERS PROBLEM

## PART 4 (USING VARIABLES)

### LEARNING TARGETS:

(LT4) I can find and compare multiple ways of solving problems.

(LT5) I can represent real situations with numbers, operations and **VARIABLES**

(1)

i. Diagram # 1

ii. Diagram # 2

iii. Diagram # 3

a. Write expressions without variables that count the boxes in each shape.

i.

ii.

iii.

b. Write an expression that can count the boxes in ANY size shape of this type, **using a variable to represent the number that changes.**

c. What does the variable in your expression represent (BE SPECIFIC!).

(2)

i. Diagram # 1

ii. Diagram # 2

iii. Diagram # 3

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b. Write an expression that can count the boxes in ANY size shape of this type, **using a variable to represent the number that changes.**

c. What does the variable in your expression represent (BE SPECIFIC!).

(3)

i. **Diagram # 1**

ii. **Diagram # 2**

iii. **Diagram # 3**

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(4)

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b. Write an expression that can count the boxes in ANY size shape of this type, **using a variable to represent the number that changes.**

c. What does the variable in your expression represent (BE SPECIFIC!).

**(5) Using the same steps as the first 4 problems, write variable expressions that count the number of boxes in a shape of ANY size shape.**

i. **Diagram # 1**

ii. **Diagram # 2**

iii. **Diagram # 3**

a. Write a variable expression that counts the number of boxes in ANY size shape.

b. What does the variable in your expression represent? (BE SPECIFIC!)

**(6) Using the same steps as the first 4 problems, write variable expressions that count the number of boxes in a shape of ANY size shape.**

i. **Diagram # 1**

ii. **Diagram # 2**

iii. **Diagram # 3**

c. Write a variable expression that counts the number of boxes in ANY size shape.

d. What does the variable in your expression represent? (BE SPECIFIC!)

**(7) Using the same steps as the first 4 problems, write variable expressions that count the number of boxes in a shape of ANY size shape.**

**i. Diagram # 1**

**ii. Diagram # 2**

**iii. Diagram # 3**

**e.** Write a variable expression that counts the number of boxes in ANY size shape.

**f.** What does the variable in your expression represent? (BE SPECIFIC!)

**(8) Using the same steps as the first 4 problems, write variable expressions that count the number of boxes in a shape of ANY size shape.**

**i. Diagram # 1**

**ii. Diagram # 2**

**iii. Diagram # 3**

**g.** Write a variable expression that counts the number of boxes in ANY size shape.

**h.** What does the variable in your expression represent? (BE SPECIFIC!)

**(9) Using the same steps as the first 4 problems, write variable expressions that count the number of boxes in a shape of ANY size shape.**

**i. Diagram # 1**

**ii. Diagram # 2**

**iii. Diagram # 3**

**i.** Write a variable expression that counts the number of boxes in ANY size shape.

**j.** What does the variable in your expression represent? (BE SPECIFIC!)