

DMT INSTITUTE

Developing Mathematical Thinking Institute (DMTI)



Professional
Development



Curricular
Resources



Assessment

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Grade 4 – Algebraic Reasoning 1

MODELS WITH EXPRESSIONS AND EQUATIONS

DMTI Varied Practice Worksheets

This PowerPoint or PDF displays the worksheets that have varied situations (context, visual, equations, and other mathematical models) for children to work on. By completing these worksheets, children increase their foundational skills in the topic, which will help them with these standards and future mathematical topics.

1. If using a journal, have children present the worksheet and complete all the problems.
2. Or print the 'Varied Practice Worksheet Slides' for them to work on. Then, you can return to the PowerPoint or PDF to look at the keys to check their work.

Grade 4: Algebraic Reasoning– Part 1

Materials Needed

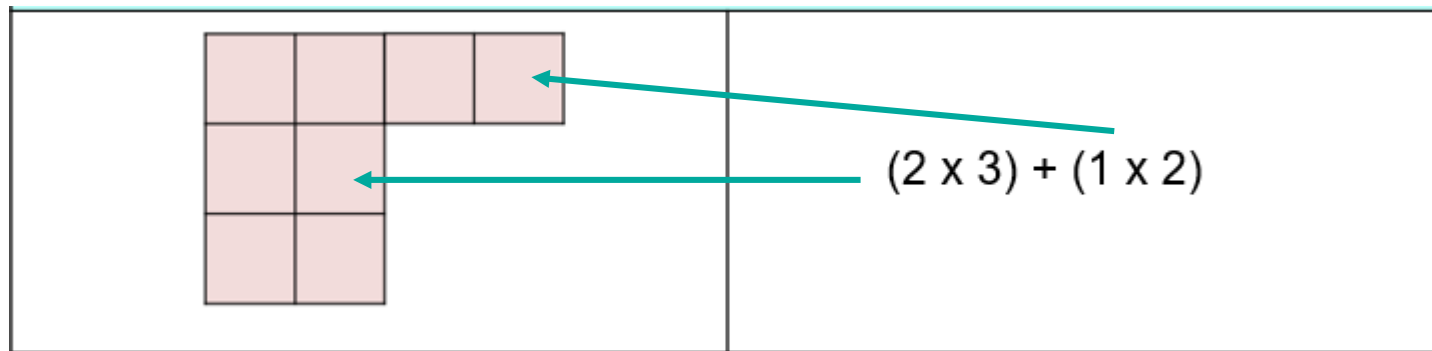
Printed copies of the Algebraic Reasoning Part 1 varied practice sheet

Scissors

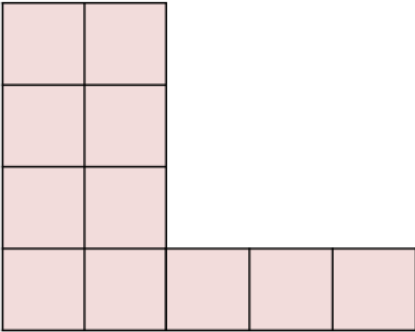
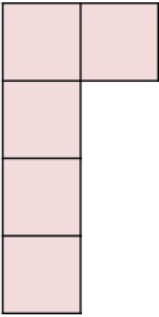
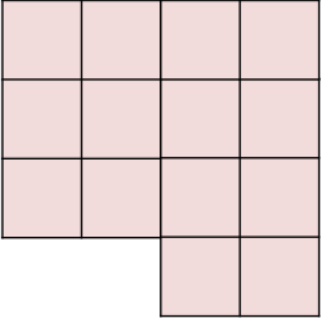
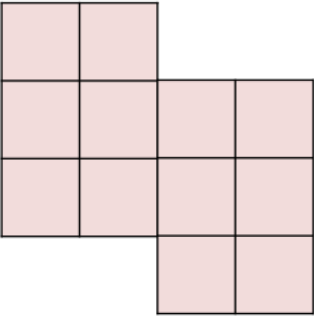
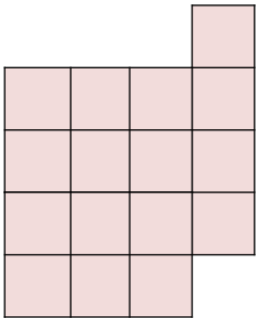
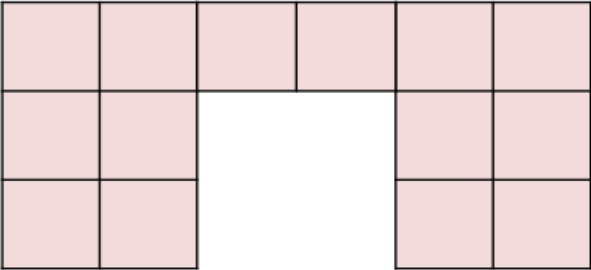
Instructions

1. Cut out the cards from the practice sheet and sort them into two categories, models and expressions.
2. Match the models to the expressions by looking for ways you could use expressions to describe the models.

Example:



NOTES: Parentheses are used to tell us to think about the operation inside the parentheses before other parts of the expression. Additionally, for this exercise 2×4 should be interpreted as $2 \times 4 = 4 + 4$. This is described as “2 iterations of 4.”

Models		Expressions	
a. 	b. 	$(3 \times 2) + (3 \times 2)$	$(4 \times 3) + (4 \times 1)$
c. 	d. 	$(3 \times 6) - (2 \times 2)$	$(4 \times 2) + (1 \times 3)$
e. 	f. 	$(4 \times 2) - (3 \times 1)$	$(3 \times 4) + (1 \times 2)$



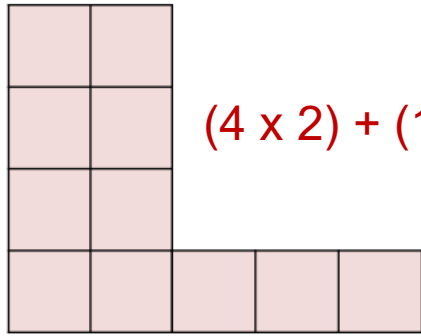
“The Developing Mathematical Thinking Institute (DMTI) is dedicated to enhancing students’ learning of mathematics by supporting educators in the implementation of research-based instructional strategies through high-quality professional development, curricular resources and assessments.”

For more information contact
Dr. Brendefur at jbrendefur@dmtinstitute.com



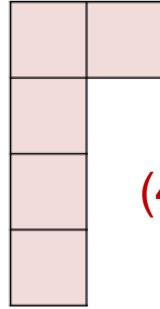
KEY

a.



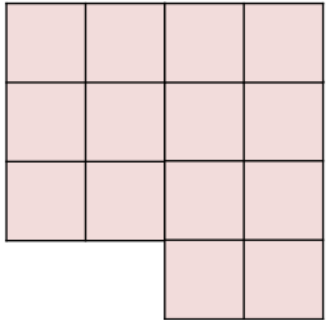
$$(4 \times 2) + (1 \times 3)$$

b.



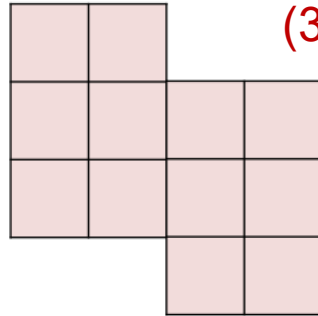
$$(4 \times 2) - (3 \times 1)$$

c.



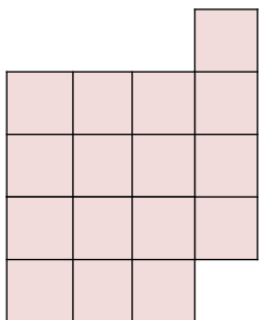
$$(3 \times 4) + (1 \times 2)$$

d.



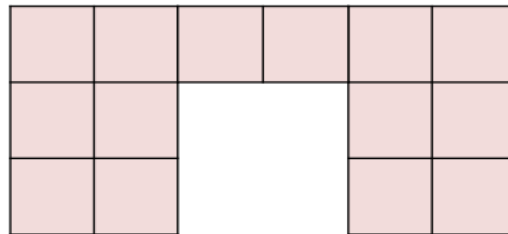
$$(3 \times 2) + (3 \times 2)$$

e.



$$(4 \times 3) + (4 \times 1)$$

f.



$$(3 \times 6) - (2 \times 2)$$