



Math Virtual Learning

HS/Essential Math II

May 14, 2020



High School/Essentials Math 2
Lesson: May 14, 2020
(U4L6)

Objective/Learning Target

Use area model thinking to apply the distributive property to multiplication problems & Translate between symbolic expressions & area models & Recognize and create equivalent expressions using properties of operations.

MENTAL MATHEMATICS * Activity 2

Distance to 1 with decimals

0.7	
0.9	
0.3	
0.40	
0.1	

0.2	
0.50	
0.8	
0.9	
0.2	

0.7	
0.30	
0.9	
0.2	
0.1	

0.8	
0.6	
0.4	
0.3	
0.10	

MENTAL MATHEMATICS * Activity 2

Distance to 1 with decimals

0.7	0.3
0.9	0.1
0.3	0.7
0.40	0.6
0.1	0.90

0.2	0.8
0.50	0.5
0.8	0.20
0.9	0.10
0.2	0.8

0.7	0.3
0.30	0.7
0.9	0.1
0.2	0.80
0.1	0.9

0.8	0.2
0.6	0.4
0.4	0.6
0.3	0.7
0.10	0.9

5

y	-9

 $5(y-9) = \underline{\hspace{2cm}}$

②

$3k$	4

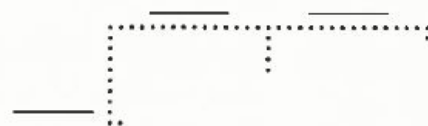
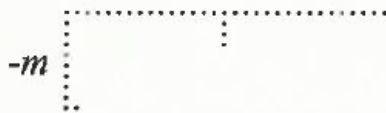
 $-j(3k+4) = \underline{\hspace{2cm}}$

Draw an area model and use it to multiply.

③ $4(d-7) = \underline{\hspace{2cm}}$

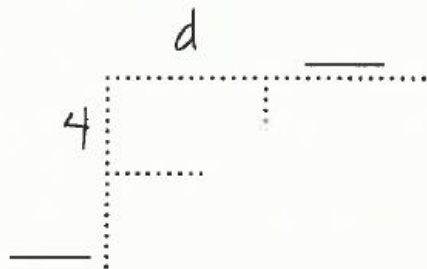
④ $-m(d-7) = \underline{\hspace{2cm}}$

⑤ $-3(n-5) = \underline{\hspace{2cm}}$

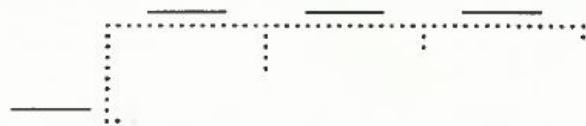


⑥ $(4-m)(d-7) = \underline{4d}$

⑦ $-3(2k+n-5) = \underline{\hspace{2cm}}$



How you draw the model depends on the number of terms in each factor.



Lesson - Answer Key

The default is positive

$$5 \begin{array}{|c|c|} \hline y & -9 \\ \hline 5y & -45 \\ \hline \end{array}$$

$$5(y-9) = \frac{5y - 45}{\text{or } 5y + -45}$$

$$\textcircled{2} \begin{array}{|c|c|} \hline 3k & 4 \\ \hline -3jk & -4j \\ \hline \end{array}$$

$$-j(3k+4) = \frac{-3jk - 4j}{\text{or } -3jk + -4j}$$

Draw an area model and use it to multiply.

$$\textcircled{3} \quad 4(d-7) = \frac{4d - 28}{\begin{array}{c} d \quad -7 \\ \hline 4 \quad \begin{array}{|c|c|} \hline 4d & -28 \\ \hline \end{array} \end{array}}$$

$$\textcircled{4} \quad -m(d-7) = \frac{-md + 7m}{\begin{array}{c} d \quad -7 \\ \hline -m \quad \begin{array}{|c|c|} \hline -md & 7m \\ \hline \end{array} \end{array}}$$

$$\textcircled{5} \quad -3(n-5) = \frac{-3n + 15}{\begin{array}{c} n \quad -5 \\ \hline -3 \quad \begin{array}{|c|c|} \hline -3n & 15 \\ \hline \end{array} \end{array}}$$

$$\textcircled{6} \quad (4-m)(d-7) = \frac{4d - 28 - md + 7m}{\begin{array}{c} d \quad -7 \\ \hline 4 \quad \begin{array}{|c|c|} \hline 4d & -28 \\ \hline \end{array} \\ \hline -m \quad \begin{array}{|c|c|} \hline -md & 7m \\ \hline \end{array} \end{array}}$$

How you draw the model depends on the number of terms in each factor.

$$\textcircled{7} \quad -3(2k+n-5) = \frac{-6k - 3n + 15}{\begin{array}{c} 2k \quad n \quad -5 \\ \hline -3 \quad \begin{array}{|c|c|c|} \hline -6k & -3n & 15 \\ \hline \end{array} \end{array}}$$

$(+)(+) = (-)(-) = (+)$ Same sign product is positive, ALWAYS

$(+)(-) = (-)(+) = (-)$ Different sign product is negative, ALWAYS

Stuff to Make You Think

Match each algebraic expression with a product.

①⑨ $3(n + 21)$

Ⓐ $3n + 63$

②⑩ $3(n + 7)$

Ⓑ $3n + 21$

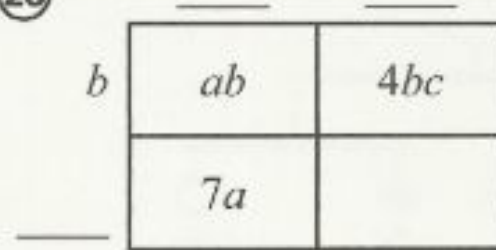
③⑪ $n(3 + 7)$

Ⓒ $n^2 + 7n$

④⑫ $n(n + 7)$

Ⓓ $10n$

②⑥



$$(b + \underline{\quad})(\underline{\quad} + \underline{\quad})$$

$$= ab + 4bc + 7a + \underline{\quad}$$

ANSWERS Stuff to Make You Think

Match each algebraic expression with a product.

①⑨ $3(n + 21)$ *A*

Ⓐ $3n + 63$

②⑩ $3(n + 7)$ *B*

Ⓑ $3n + 21$

②⑪ $n(3 + 7)$ *D*

Ⓒ $n^2 + 7n$

②⑫ $n(n + 7)$ *C*

Ⓓ $10n$

②⑥

	<u>a</u>	<u>4c</u>
b	ab	4bc
<u>7</u>	7a	28c

$$(b + \underline{7})(\underline{a} + \underline{4c})$$

$$= ab + 4bc + 7a + \underline{28c}$$

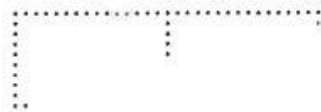
Additional Practice

Draw an area model and use it to multiply.

(A) $8(m - 10) = \underline{\hspace{2cm}}$

(B) $-5(k + 8) = \underline{\hspace{2cm}}$

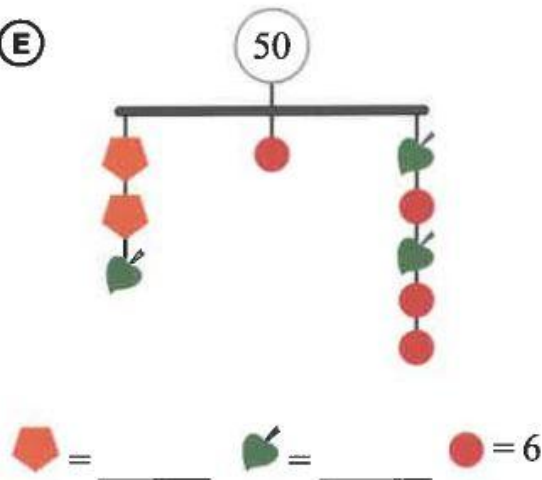
(C) $-5(4c + 8) = \underline{\hspace{2cm}}$



(D) **1, 2, 3 Latin Square**

		2
3		

(E)



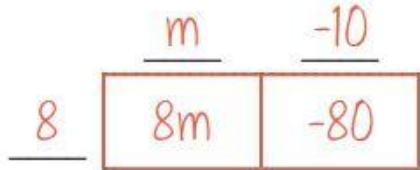
(F) **MysteryGrid 0, 2, 4, 6**

16,•		0,•	
4,+		10,+	2,+
	6		
6,+		6,+	

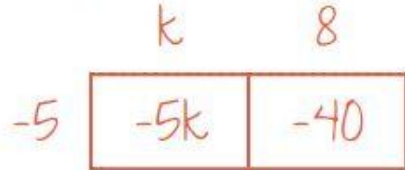
Additional Practice Key

Draw an area model and use it to multiply.

(A) $8(m - 10) = \underline{8m - 80}$



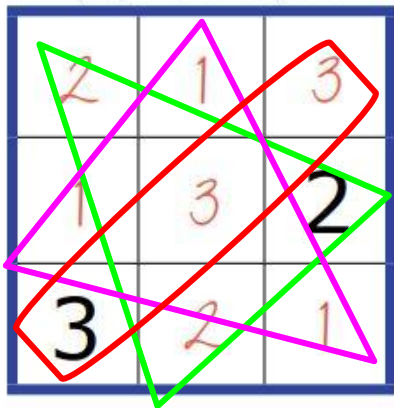
(B) $-5(k + 8) = \underline{-5k - 40}$



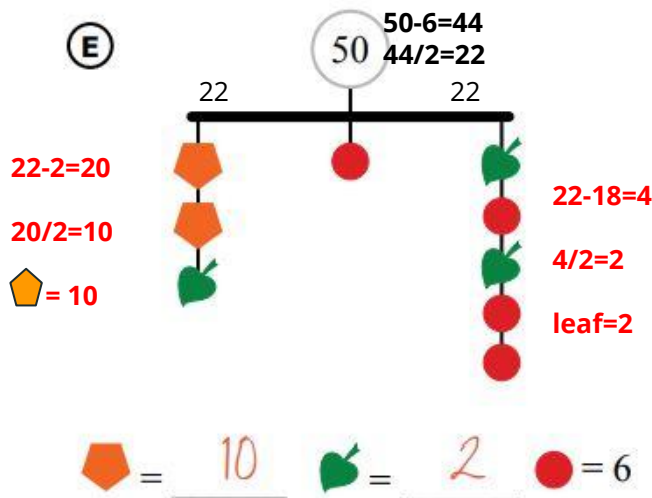
(C) $-5(4c + 8) = \underline{-20c - 40}$



(D) **1, 2, 3 Latin Square**

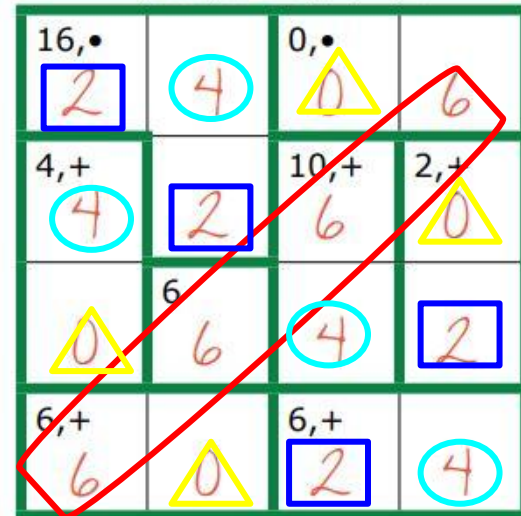


(E)



(F)

MysteryGrid 0, 2, 4, 6



Draw an area model and use it to multiply.

Today you learned to use area model thinking to apply the distributive property to multiplication problems & Translate between symbolic expressions & area models & Recognize and create equivalent expressions using properties of operations.

For additional practice, click the link: [Solve Me Mystery Grids](#)