Virtual Learning

Essential Math 4
Unit 10

Lesson 4: Products, Sums, and Signs

April 23, 2020

Essentials Math 4
Lesson 4: April 23, 2020

Learning Target:
I can use an area model to factor trinomials (a=1).

You will explore the use of area models to factor algebraic expressions.

Directions:

1. Click through the slides.
2. Watch all videos on slides.
3. Do what each slide asks on a separate sheet of paper.

Bell Work, April 23, 2020
Find the values for t and u that satisfy all the statements.

(L) Who Am I?

t u

- $u \geq t$
- The sum of my digits is 12.
- The product of my digits is 35.

Bell Work
Answer Key
April 23, 2020

Ⓛ Who Am I?

t	u
5	7

- $u \geq t$
- The sum of my digits is 12.
- The product of my digits is 35.
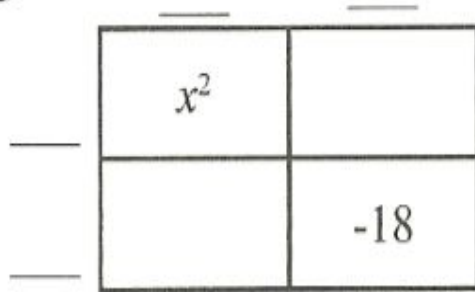
Practice Problems: Unit 10 Lesson 4, page 23, G-H. Factor using the area models.
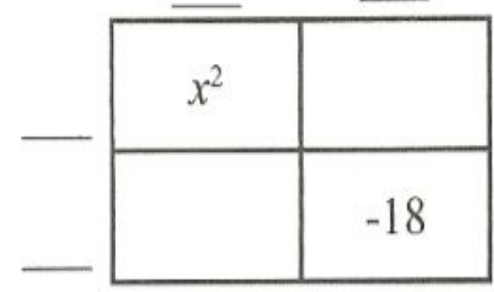
These two problems differ in a small way, but it makes their answers different. Factor both expressions.

(G)

$x^2 + 3x - 18 =$

(H)

$x^2 - 3x - 18 =$

Answer Key:

Once you have completed the problems, check your answers for page 23 here.

These two problems differ in a small way, but it makes their answers different. Factor both expressions.

G

	x	-3
x	x^2	-3x
6	6x	-18

(The factors can be expressed in either order.)

$x^2 + 3x - 18 =$ (x + 6)(x - 3)

H

	x	3
x	x^2	3x
-6	-6x	-18

$x^2 - 3x - 18 =$ (x - 6)(x + 3)

Practice Problems: Unit 10 Lesson 4, page 23, I. Factor the trinomial.

Factor each expression below.

(I) $x^2 - 9x + 18 =$

Answer Key:

Once you have completed the problems, check your answers for page 23 here.

Factor each expression below.

① $x^2 - 9x + 18 = (x - 3)(x - 6)$

	x	-3
x	x^2	-3x
-6	-6x	18

Students don't have to use a table, don't have to fill it in completely if they do, and may use a different logic to order their entries.

Factor Pairs of 18	Sum
1, 18	19
-1, -18	-19
2, 9	11
-2, -9	-11
3, 6	9
-3, -6	-9

Practice Problems: Unit 10 Lesson 4, page 23, J. Factor the trinomial.

Ⓙ $x^2 - 6x + 9 =$

Answer Key:

Once you have completed the problems, check your answers for page 23 here.

(J) $x^2 - 6x + 9 = (x - 3)(x - 3)$

	x	-3
x	x^2	-3x
-3	-3x	9

Factor Pairs of 9	Sum
-1, -9	-10
-3, -3	-6

Practice Problems: Unit 10 Lesson 4, page 23, K. Factor the trinomial.

(K) $x^2 - 3x - 4 =$

Answer Key:

Once you have completed the problems, check your answers for page 23 here.

(K) $x^2 - 3x - 4 = (x - 4)(x + 1)$

	x	-4
x	x^2	-4x
1	x	-4

Factor Pairs of -4	Sum
-1, 4	3
1, -4	-3
-2, 2	0

Extra problem just for fun! Find the values of t and u that satisfy all of the statements.

(M) Who Am I?

t	u

- The sum of my digits is 10.
- $u > t$
- The product of my digits is 24.

Just for fun!
Key

Ⓜ Who Am I?

t u

t	u
4	6

- The sum of my digits is 10.
- $u > t$
- The product of my digits is 24.

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