

Virtual Learning

Essential Math 4

Unit 10 Lesson 5: Zero Product Property

April 28, 2020



Essential Math 4 Lesson 5: April 28, 2020

Learning Target:
I can solve algebraic equations using different methods.



You will explore the use of area models to factor algebraic expressions and solve for the zeros.

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 28, 2020

Use an area model to factor. Complete the model and equation.

6
$$x^2 - 2x - 15 =$$

	x	
x	χ^2	
_[-15



Bell Work Answer Key April 28, 2020

Use an area model to factor. Complete the model and equation.

6
$$x^2 - 2x - 15 = (x - 5)(x + 3)$$

	x	-5
x	x^2	-5x
3	3x	-15

(Factors can be written in either order.)



Practice Problems p.31 Solve the following:

STUFF TO MAKE YOU THINK



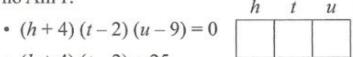
Who Am I?

•
$$(t+2)(u-6)(h-3)=0$$
 $h t u$

- (t+2)(h-3)=12
- (t+2)=4



Who Am I?



•
$$(h+4)(t-2)=25$$

•
$$(h+4)=5$$



Practice Problems Key (p.31):

STUFF TO MAKE YOU THINK

(15)

Who Am I?

•
$$(t+2)(u-6)(h-3)=0$$

- (t+2)(h-3)=12
- (t+2)=4



Who Am I?

•
$$(h+4)(t-2)(u-9) = 0$$

• $(h+4)(t-2) = 25$

•
$$(b + 1) = 6$$

•
$$(h+4)=5$$



Practice Problems: Unit 10 Lesson 5 (page 31)

Factor to solve each equation.

$$(17)$$
 $x^2 - 36 = 0$

18
$$3y - 6 = 0$$

$$3z^2 + 18z = 0$$

$$x =$$
___ or ___



Answer Key:

Once you have completed the problems, check your answers for page 31 here.

Factor to solve each equation.

$$x^2 - 36 = 0$$

Can be factored with an area model: (x+6)(x-6) = 0

OR add 36 and solve

$$x^2 = 36$$

$$x = _{6}$$
 or _______

(18)
$$3y - 6 = 0$$

Can be factored:

$$3(y - 2) = 0$$

OR solved as 3y = 6

$$y = 2$$

$$\mathbf{19} \ \ 3z^2 + 18z = 0$$

$$\begin{array}{c|cccc}
z & 6 \\
3z & 3z^2 & 18z
\end{array}$$

$$3z(z+6)=0$$

$$z = 0$$
 or -6



Practice Problems: Unit 10 Lesson 5 page 31

TOUGH STUFF

Factor to solve each equation.

$$\begin{array}{c} 20 \quad a^2 + 6a + 11 = 3 \\ -3 \quad -3 \end{array}$$

For factoring to help, the product of the factors must be 0.

21
$$b^2 + 8b + 9 = -6$$

$$b =$$
 or ____



Answer Key:

Once you have completed the problems, check your answers for the previous slide here.

TOUGH STUFF

Factor to solve each equation.

$$a^{2} + 6a + 11 = 3$$

$$-3 - 3$$

$$a^{2} + 6a + 8 = 0$$

$$a \quad 4$$

$$a \quad a^{2} \quad 4a$$

$$2 \quad 2a \quad 8$$

$$(a + 2)(a + 4) = 0$$

a = -2 or -4

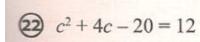
For factoring to help, the product of the factors must be 0.

21)
$$b^2 + 8b + 9 = -6$$

 $b^2 + 8b + 15 = 0$
 $b = -5$ or -3



Practice problems p. 31



23
$$d^2 + 14d + 30 = 6$$

$$c =$$
 or ____



Practice problems p.31 Key

$$(c + 8)(c - 4) = 0$$

 $c = -8$ or 4

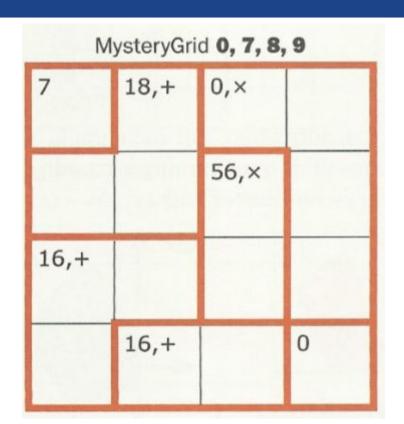
(23)
$$d^2 + 14d + 30 = 6$$

 $d^2 + 14d + 24 = 0$
 $d = 12$
 $d = 2$
 $d = 4$
 $d = 4$

d = -12 or -2

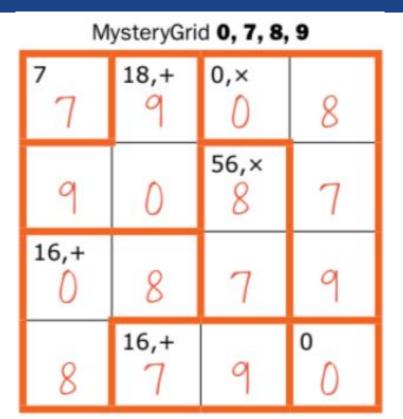


Just for fun!





Just for fun! Key





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