Virtual Learning

Essential Math 4

Unit 11
Lesson 2: Exponents

May 11, 2020

Essentials Math 4
Lesson: May 11, 2020

Learning Target:

I can use multiplication to understand exponents.

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You will explore the use of multiplication and its relationship to exponents.

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: May 11, 2020

Fill in the blank:

$3^4 \bullet 3^5 =$ $\qquad$ $8^3 \bullet \_\_ = 8^9$

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Bell Work Key
May 11, 2020

$3^2 \cdot 3^5 = 3^7$

$8^3 \cdot 8^6 = 8^9$

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Practice Problems:
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page 11, # A-F

Additional Practice

Find each product and use exponents in your answer.

(A) $5^3 \cdot 5^4$ _____

(B) $6^3 \cdot 6^{13}$ _____

(C) $2^{17} \cdot 2^2$ _____

(D) $7^2 \cdot 7^4 \cdot 7$ _____

(E) $c^5 \cdot c^4 -$ _____

(F) $u^3 \cdot u \cdot u^9$ _____

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Answer Key: After completing the problems, check your answers for page 11 here.

Find each product and use exponents in your answer.

(A) $5^3 \cdot 5^4 =$ 5^7

(B) $6^3 \cdot 6^{13} =$ 6^{16} (or 36^8)

(C) $2^{17} \cdot 2^2 =$ 2^{19}

(D) $7^2 \cdot 7^4 \cdot 7 =$ 7^7

(E) $c^5 \cdot c^4 =$ c^9

(F) $u^3 \cdot u \cdot u^9 =$ u^{13}

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Practice Problems:
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page 11, # i-vi

Circle the expression(s) that are equivalent to $a^3 \cdot a^8$

i) $a^4 \cdot a^7$

ii) $a \cdot a^{10}$

iii) a^{24}

iv) $a^2 \cdot a^3 \cdot a^6$

v) $a^7 \cdot a \cdot a \cdot a^2$

vi) $a^2 \cdot a^{12}$

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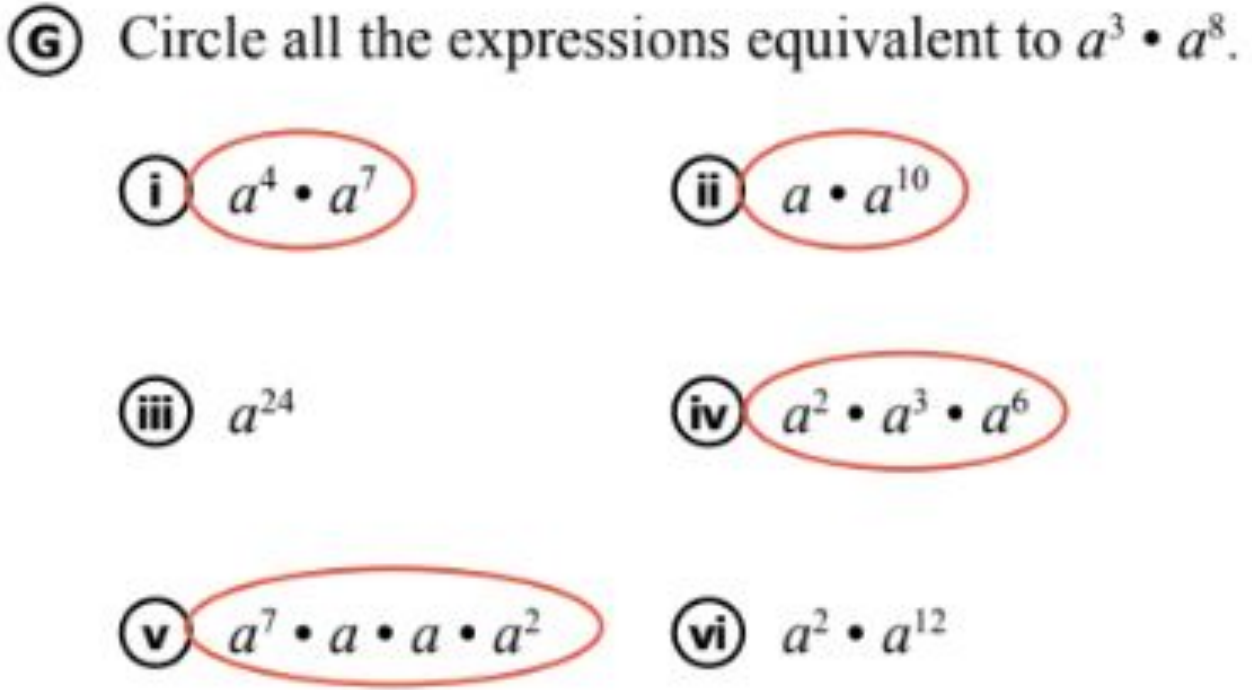
Answer Key: After completing the problems, check your answers for page 11 here.



(G) Circle all the expressions equivalent to $a^3 \cdot a^8$.

(i) $a^4 \cdot a^7$

(ii) $a \cdot a^{10}$

(iii) a^{24}

(iv) $a^2 \cdot a^3 \cdot a^6$

(v) $a^7 \cdot a \cdot a \cdot a^2$

(vi) $a^2 \cdot a^{12}$

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Practice Problems:
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page 9, # H-I

(H) Write three equivalent expressions for $2^4 \cdot 2^{10}$.

(I) Write three equivalent expressions for $3^5 \cdot 3 \cdot 3^2$.

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Answer Key: After completing the problems, check your answers for page 11 here.

(H) Write three equivalent expressions for $2^4 \cdot 2^{10}$.

$2^2 \cdot 2^{12}$ or
2^{14} or
$2^7 \cdot 2^7$ or
$2^2 \cdot 2^3 \cdot 2^4 \cdot 2^5$ or
$4^2 \cdot 4^5$ or...

(Many possible responses.)

(I) Write three equivalent expressions for $3^5 \cdot 3 \cdot 3^2$.

$3^4 \cdot 3^4$ or
3^8 or
$3^6 \cdot 3 \cdot 3$ or
$3 \cdot 3^7$ or
9^4 or...

(Many possible responses.)

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Practice Problems:
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page 11,
J-K

(J) Write three equivalent expressions for $w^2 \cdot w^5$.

(K) Write three equivalent expressions for $p^{20} \cdot p \cdot p$.

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Answer Key:
After completing the problems, check your answers for page 11 here.

(J) Write three equivalent expressions for $w^2 \cdot w^5$.

$w^3 \cdot w^4$ or
$w \cdot w^6$ or
w^7 or
$w^4 \cdot w \cdot w^2$ or ...

(Many possible responses.)

(K) Write three equivalent expressions for $p^{20} \cdot p \cdot p$.

$p^{20} \cdot p^2$ or
$p^{16} \cdot p^6$ or
p^{22} or ...

(Many possible responses.)

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Practice Problems: Unit 11 Lesson 2 page 11, # L-O

(L) $4^5 \cdot 4^a = 4^{12}$

$a =$ _____

(M) $3^b \cdot 3^8 = 3^{10}$

$b =$ _____

(N) $m^5 \cdot m^c = m^{15}$

$c =$ _____

(O) $n^d \cdot n \cdot n^8 = n^{16}$

$d =$ _____

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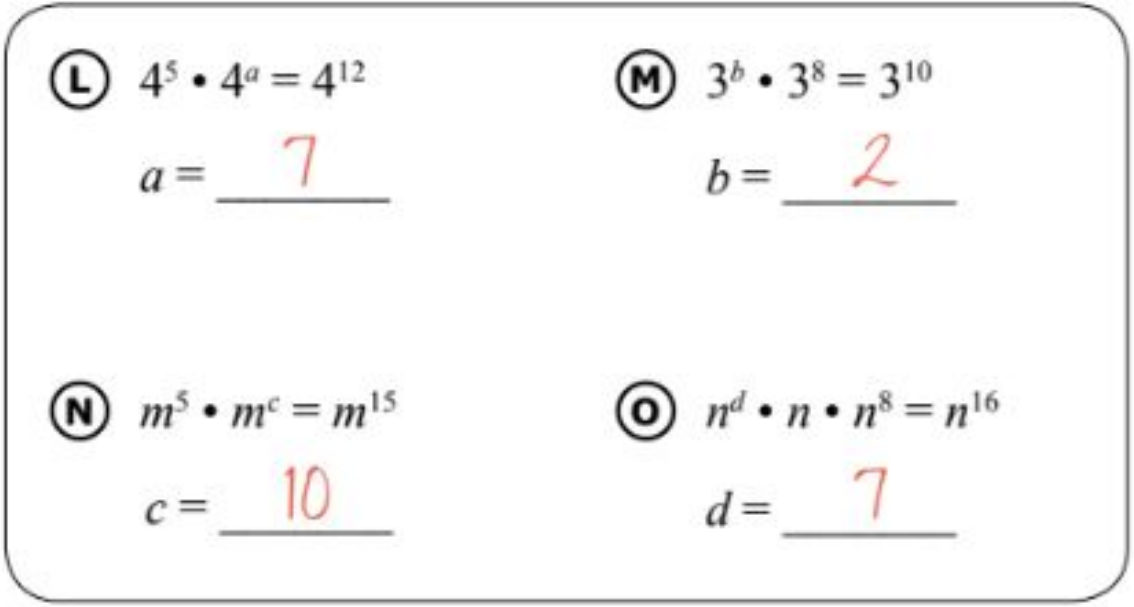
Answer Key:

After completing the problems, check your answers for page 11 here.



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Practice Problems: Unit 11 Lesson 2 page 11, # P-S

(P) $x^4 \cdot x^4 =$ _____

$x^4 + x^4 =$ _____

(Q) $n^{10} \cdot n^{10} =$ _____

$n^{10} + n^{10} =$ _____

(R) $3h^9 \cdot 4h^9 =$ _____

$3h^9 + 4h^9 =$ _____

(S) $a^4 \cdot a^3 =$ _____

$a^4 + a^3 =$ _____

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Answer Key:

After completing the problems, check your answers for page 11 here.

(P) $x^4 \cdot x^4 =$ x^8

$x^4 + x^4 =$ $2x^4$

(Q) $n^{10} \cdot n^{10} =$ n^{20}

$n^{10} + n^{10} =$ $2n^{10}$

(R) $3h^9 \cdot 4h^9 =$ $12h^{18}$

$3h^9 + 4h^9 =$ $7h^9$

(S) $a^4 \cdot a^3 =$ a^7

$a^4 + a^3 =$ $a^4 + a^3$

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Practice Problems:

Unit 11 Lesson 2

page 11, #T

Ⓣ MysteryGrid **6, 7, 8, 9**

30, +	72, •	63, •	
		30, +	
		48, •	
42, •			

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Answer Key:
After completing the problems, check your answers for page 11 here.

Ⓣ MysteryGrid **6, 7, 8, 9**

30, + 6	72, • 8	63, • 9	7
8	9	30, + 7	6
9	7	48, • 6	8
42, • 7	6	8	9

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Fun Stuff:

MysteryGrid **a, a^2, a^3, a^4**

a^6, •			$2a^4+a^3$,+
a^7, •	a^4, •		
		a^5, •	
	a^7, •		

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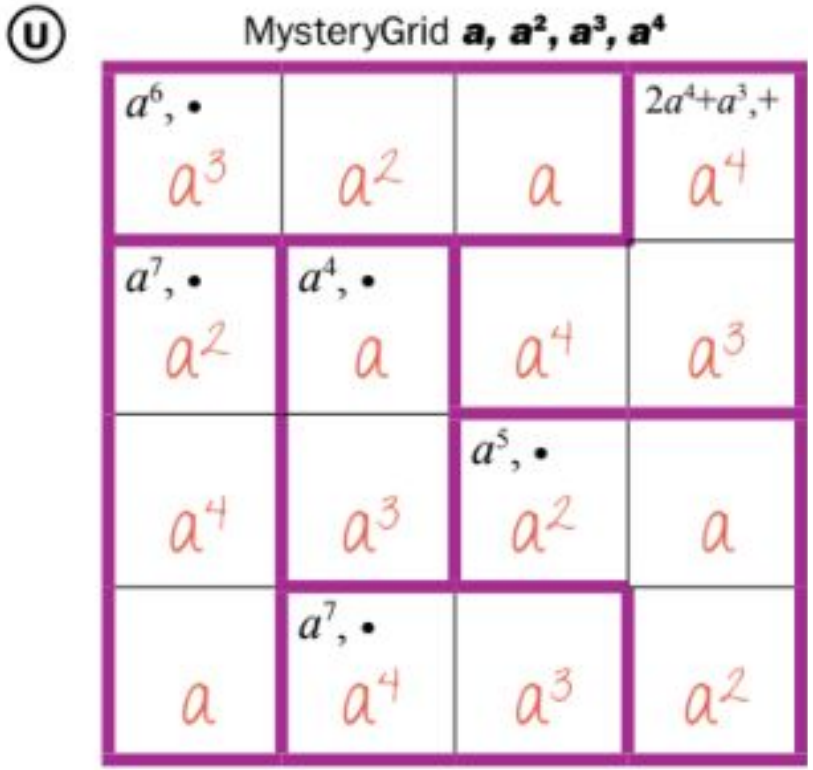
Fun Stuff Key:



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