Get out your homework and have it ready to check. Check/correct your answers with the key below. Quiz on Tuesday!

Classwork - Factoring Expressions and Quiz Review

Practice: Completely factor each expression and write it in factored form. Use an area model to show your work! If the expression can't be factored write CAN'T BE FACTORED and explain why.

A) $4x + 10$

2	$4x$	$+10$
	$2x$	$+5$

$2(2x+5)$

B) $5x - 15$

5	$5x$	-15
	x	-3

$5(x-3)$

C) $-12x + 18$

6	$-12x$	$+18$
	$-2x$	$+3$

$6(-2x+3)$

D) $11n + 5n$

n	$11n$	$+5n$
	11	5

$n(11+5)$

E) $-8f - 28$

4	$-8f$	-28
	$-2f$	-7

$4(-2f-7)$

F) $-x - 6$

-1	$-x$	-6
	$1x$	$+6$

$-1(x+6)$

G) $5d + 9$

Can't be factored

H) $16h - 56$

8	$16h$	-56
	$2h$	-7

$8(2h-7)$

I) $4x + 8xy - 16$

4	$4x$	$+8xy$	-16
	x	$+2xy$	-4

$4(x+2xy-4)$

$1(-x-6)$

1) Find the Greatest Common Factor of terms listed below.

A) $42a$ and 27

B) $16xy$ and $32x$

C) 45 and $15n$

D) $26g$ and $65g$

E) $18cd$ and $30cd$

F) $12b$ and 36

G) $56g$ and $84gh$

H) $42s$ and $28s$

I) $22mn$ and $11kmn$

2) Completely factor each expression and write it in factored form. Use an area model to show your work! If the expression can't be factored write CAN'T BE FACTORED and explain why.

A) $36x + 24$

B) $12 - 3x$

C) $-10x + 20$

D) $14n + 35n$

E) $7h + 24$

F) $16x - 40$

G) $-13d + 13$

H) $24xy - 60y$

I) $2abc + bc$

J) $6j - 16$

K) $-36s + 27$

L) $9mn - 3m + 21$

1) Evaluate each expression if $x = -3$, $y = 4$, and $z = 7$. **You must show all work.**

A) $2x + 5y$

$2(-3)+5(4)$

$-6+20$

14

B) $-4x + y - 2z$

$-4(-3)+4-2(7)$

$12+4-14$

2

C) $\frac{6y}{x}$

$\frac{6(4)}{-3} = \frac{24}{-3}$

$= -8$

D) $z^2 + 5x$

$7^2+5(-3)$

$49-15$

34

E) $z - x + 3y$

$7-(-3)+3(4)$

$7+3+12$

22

F) $\frac{yz}{2}$

$\frac{4 \cdot 7}{2}$

$\frac{28}{2} = 14$

2) **Refer to the table to the right.**
A) If the arithmetic sequence will continue, what algebraic expression can be used to find the cost for any number of days?

Days	Cost ($)
1	9
2	18
3	27

Define Variable **Algebraic Expression**

d = days d • 9 OR 9d

B) How much will the cost be after 12 days? d = 12

9(12) = $108

3) **Refer to the table to the right.**
A) If the arithmetic sequence will continue, what algebraic expression can be used to find the distance traveled in feet for any number of seconds?

Seconds	Feet
1	3
2	6
3	9

Define Variable **Algebraic Expression**

s = seconds 3s

B) How far will the object have traveled after 20 seconds?

3(20) = (60ft) s = 20

4) **Refer to the table to the right.**

A) If the arithmetic sequence will continue, what algebraic expression can be used to find the cost for any number of pounds?

Pounds	Cost ($)
1	7
2	14
3	21

Define Variable **Algebraic Expression**

P = # of pounds $7P$

B) How much will the cost be for 5 pounds?

$7(5) = \$35$

5) **Completely simplify the following expressions. Create an area model to perform the distributive property and circle/box like terms to combine like terms when needed. SHOW WORK**

A) $4x - 8x + 9 - 5$

$-4x + 4$

B) $-8(x - 2)$

$-8 \mid -8x \mid +16$

$x \quad -2$

$-8x + 16$

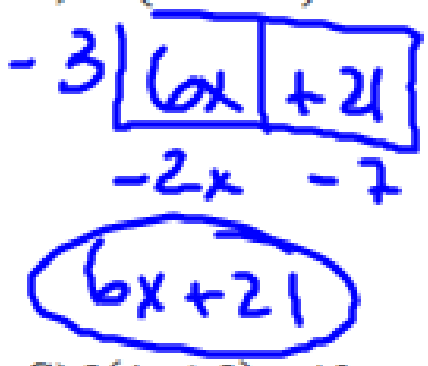
C) $-6 + w - 3 - 4w$

$-3w - 9$

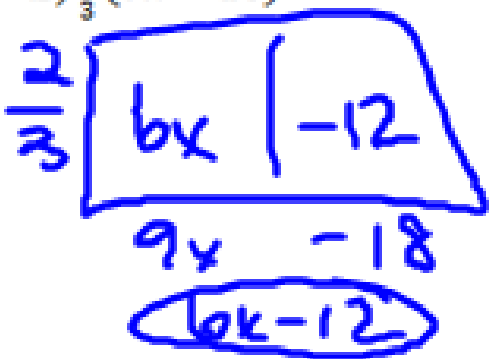
OR

$-9 - 3w$

D) $-3(-2x-7)$



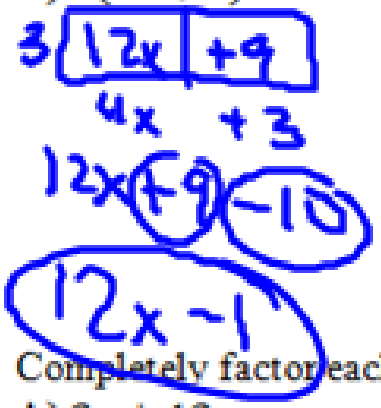
E) $\frac{2}{3}(9x-18)$



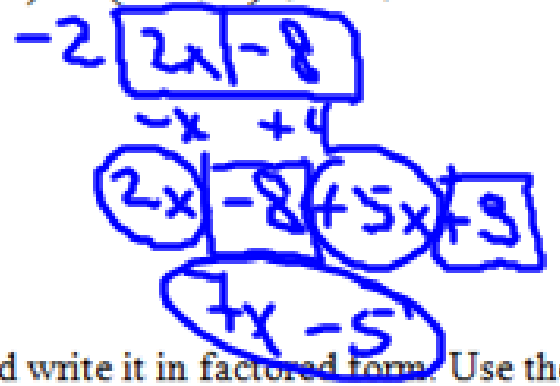
F) $4a+5-8b-4$

4a-8b+1

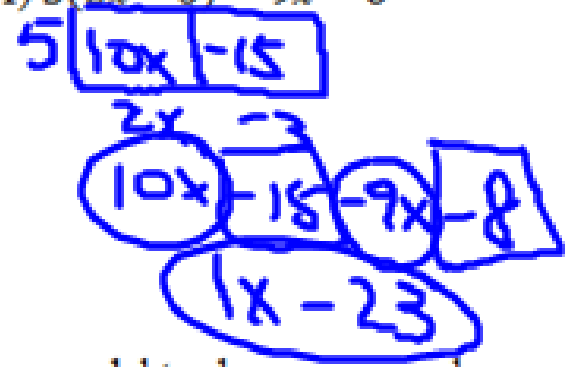
G) $3(4x+3)-10$



H) $-2(-x+4)+5x+3$

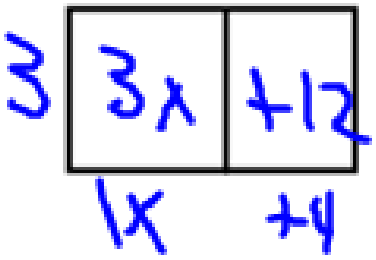


I) $5(2x-3)-9x-8$



Completely factor each expression and write it in factored form. Use the area model to show your work.

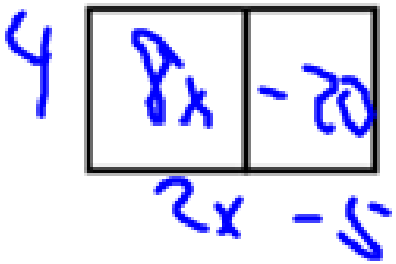
A) $3x+12$



Factored Form:

3(x+4)

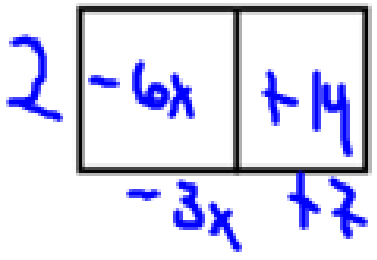
B) $8x-20$



Factored Form:

4(2x-5)

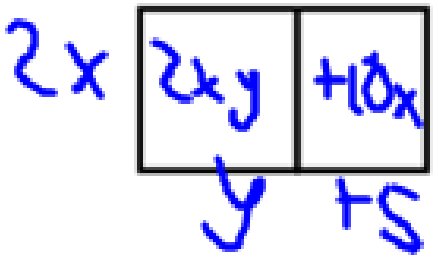
C) $-6x+14$



Factored Form:

2(-3x+7)

D) $2xy+10x$



Factored Form:

2x(y+5)