Intermediate Algebra Name_____

#1A Non-Aluminum FOIL -- Chapter 8B

Hour____

Find each product.

1) $(7m + 8)(2m - 5)$

A) $14m^2 - 19m - 40$
B) $28m^2 + 18$
C) $28m^2 - 54m + 18$
D) $28m^2 - 30m - 18$

2) $(7p - 6)(5p + 3)$

A) $35p^2 + 2p - 48$
B) $35p^2 - 51p + 18$
C) $35p^2 - 18$
D) $35p^2 - 9p - 18$

3) $(a - 2)(3a - 4)$

A) $3a^2 + 2a - 8$
B) $3a^2 + 8$
C) $8a^2 + 14a - 15$
D) $3a^2 - 10a + 8$

4) $(4a + 2)(2a + 3)$

A) $8a^2 + 8a - 6$
B) $8a^2 + 16a + 6$
C) $28a^2 + 6a - 4$
D) $8a^2 + 6$

5) $(6a + 7)(6a + 5)$

A) $36a^2 + 12a - 35$
B) $36a^2 + 35$
C) $36a^2 - 12a - 35$
D) $36a^2 + 72a + 35$

6) $(5b + 2)(6b - 8)$

A) $30b^2 + 52b + 16$
B) $30b^2 - 16$
C) $30b^2 - 28b - 16$
D) $30b^2 - 52b + 16$

7) $(8x + 6)(7x - 8)$

A) $56x^2 - 48$
B) $24x^2 - 10x - 4$
C) $24x^2 + 13x - 2$
D) $56x^2 - 22x - 48$

8) $(a + 1)(7a + 6)$

A) $7a^2 + 13a + 6$
B) $25a^2 + 45a + 14$
C) $25a^2 + 25a - 14$
D) $25a^2 - 14$

9) $(6a + 3)(a + 8)$

A) $6a^2 + 45a - 24$
B) $24a^2 + 68a + 48$
C) $6a^2 - 45a - 24$
D) $6a^2 + 51a + 24$

10) $(2n + 5)(5n - 6)$

A) $10n^2 - 37n + 30$
B) $10n^2 + 13n - 30$
C) $10n^2 - 30$
D) $10n^2 + 37n + 30$

11) $(8x + 7)(7x - 7)$

A) $5x^2 + 20x + 15$
B) $56x^2 - 49$
C) $56x^2 + 105x + 49$
D) $56x^2 - 7x - 49$

12) $(2x - 4)(3x + 6)$

A) $6x^2 - 24$
B) $2x^2 - 14x - 16$
C) $2x^2 - 18x + 16$
D) $2x^2 - 16$

13) $(6v - 2)(3v + 3)$

A) $18v^2 - 24v + 6$
B) $18v^2 - 6$
C) $18v^2 + 24v + 6$
D) $18v^2 + 12v - 6$

14) $(6r - 2)(6r + 5)$

A) $36r^2 + 42r + 10$
B) $28r^2 - 38r + 12$
C) $36r^2 - 42r + 10$
D) $36r^2 + 18r - 10$

15) $(8k + 4)(4k - 2)$

A) $32k^2 - 8$
B) $32k^2 + 32k + 8$
C) $21k^2 - 64k + 35$
D) $32k^2 - 32k + 8$

16) $(5r - 2)(5r + 2)$

A) $8r^2 + 57r + 7$
B) $25r^2 + 20r + 4$
C) $25r^2 - 4$
D) $8r^2 + 55r - 7$

17) $(4v + 6)(7v - 7)$

A) $28v^2 + 14v - 42$
B) $35v^2 + 91v + 56$
C) $42v^2 - 13v + 1$
D) $35v^2 + 56$

18) $(m + 1)(6m + 2)$

A) $32m^2 - 16m - 6$
B) $32m^2 - 32m + 6$
C) $6m^2 + 8m + 2$
D) $6m^2 + 2$

19) $(p - 1)(5p + 2)$

A) $5p^2 + 7p + 2$
B) $5p^2 - 3p - 2$
C) $5p^2 - 7p + 2$
D) $5p^2 - 2$

20) $(v - 2)(6v + 7)$

A) $25v^2 + 21$
B) $25v^2 - 50v + 21$
C) $18v^2 - 6v - 12$
D) $6v^2 - 5v - 14$

Intermediate Algebra Name_____

Chapter 8B C1-2 Review

Hour____

Find each product.

1) $(3x + 3)(6x + 4)$

A) $18x^2 - 6x - 12$
B) $18x^2 + 12$
C) $12x^2 - 22x + 6$
D) $18x^2 + 30x + 12$

2) $(4x + 2)(3x + 3)$

A) $5x^2 + 13x - 6$
B) $12x^2 + 18x + 6$
C) $12x^2 + 6$
D) $5x^2 - 17x + 6$

3) $(8a + 7)(8a - 8)$

4) $(4v - 5)(3v - 1)$

5) $(6x - 2)(\quad - 1)$ $6x^2 - 8x + 2$

6) $(8x \quad)(8x - 6)$ $64x^2 - 56x + 6$

7) $(\quad + 6)(4x - 7)$ $16x^2 - 4x - 42$

8) $(x + 3)(\quad + 4)$ $2x^2 + 10x + 12$

9) $(2x - 7)(5x \quad)$ $10x^2 - 43x + 28$

10) $(2b \quad)(6b + 7)$ $12b^2 + 50b + 42$

Intermediate Algebra Name_____

#1B FOILed Again -- Chapter 8B

Hour____

Find each product.

1) $(a - 5)(3a - 1)$

2) $(5b - 1)(5b - 8)$

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

4) $(n - 7)(4n + 5)$

5) $(7n - 1)(5n + 7)$

6) $(7b + 2)(6b - 1)$

7) $(7p - 2)(4p - 5)$

8) $(4r + 7)(3r + 2)$

9) $(2n - 3)(5n + 3)$

10) $(4x - 7)(3x + 8)$

11) $(v - 7)(4v + 6)$

12) $(5r + 4)(6r + 5)$

13) $(7a + 6)(8a + 3)$

14) $(6r + 1)(7r + 8)$

15) $(7n - 8)(5n - 8)$

16) $(3r + 4)(4r - 7)$

17) $(a + 5)(3a + 2)$

18) $(5m - 3)(4m + 1)$

19) $(2r + 5)(r - 3)$

20) $(3r + 2)(8r + 5)$

Intermediate Algebra Name_____

#2 (given 3 out of 4) -- Chapter 8B Hour_____

Find What's Missing!

Fill in the missing terms and then show how the middle term is a result of the factors chosen.

1. $18n^2 + 9n + 1$
   $(6n + 1)(3n \quad)$

2. $24n^2 + 11n + 1$
   $(8n + 1)(3n \quad)$

3. $2x^2 + 7x + 6$
   $(x + 2)(2x \quad)$

4. $18n^2 - 9n - 5$
   $(3n + 1)(6n \quad)$

5. $5x^2 + 34x + 24$
   $(x + 6)(\quad + 4)$

6. $7n^2 + 36n + 5$
   $(n + 5)(\quad + 1)$

7. $21x^2 + 10x - 16$
   $(7x \quad)(3x - 2)$

8. $2x^2 - 7x - 30$
   $(x \quad)(2x + 5)$

9. $3a^2 + 19a + 6$
   $(a + 6)(\quad + 1)$

10. $16n^2 - 18n + 5$
    $(8n \quad)(2n - 1)$

Intermediate Algebra Name_____

#3 (given 2 out of 4) -- Chapter 8B Hour_____
Find More of What's Missing!

Fill in the missing terms and then show how the middle term is a result of the factors chosen.

1. $5x^2 - 37x + 42$
   $(5x - 7)(\quad)$

2. $7k^2 + 45k + 18$
   $(k + 6)(\quad)$

3. $35k^2 - 96k + 64$
   $(5k \quad)(7k \quad)$

4. $21k^2 + 80k + 64$
   $(3k \quad)(\quad + 8)$

5. $20x^2 - 33x + 10$
   $(5x \quad)(\quad -5)$

6. $18p^2 + 39p - 7$
   $(3p \quad)(6p \quad)$

7. $35a^2 + 57a + 18$
   $(\quad)(5a + 6)$

8. $8x^2 + 39x + 28$
   $(\quad + 4)(8x \quad)$

9. $48v^2 + 74v + 21$
   $(\quad)(6v + 7)$

10. $35v^2 - 31v - 40$
    $(\quad -8)(7v \quad)$

Intermediate Algebra Name_____

#4A -- Chapter 8B
FACTOR IT!

Hour_____

Factor each trinomial.

1. $7p^2 - 40p - 12$ **last**

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( ) ( )
( ) ( )
( ) ( )
( ) ( )

2. $7n^2 + 80n + 100$ **last**

( ) ( )
( ) ( )
( ) ( )
( ) ( )
( ) ( )
( ) ( )
( ) ( )

3. $3x^2 - 19x - 40$ **last**

( ) ( )
( ) ( )
( ) ( )
( ) ( )
( ) ( )
( ) ( )
( ) ( )

4. $5n^2 - 39n + 28$ **last**

( ) ( )
( ) ( )
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( ) ( )
( ) ( )
( ) ( )
( ) ( )

5. $5x^2 - 2x - 7$ **last**

( ) ( )

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6. $v^2 + v - 6$ **last**

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7. $m^2 - 5m + 4$ **last**

( ) ( )

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8. $x^2 - 11x + 30$ **last**

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9. $v^2 - 4v - 45$ **last**

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10. $k^2 - 9k + 8$ **last**

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Intermediate Algebra Name_____

Hour_____

#4B -- Chapter 8B
FACTOR IT AGAIN!

Factor each trinomial.

1. $2x^2 + 25x + 63$

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( ) ( )

2. $2n^2 + 17n - 9$

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3. $5n^2 + n - 6$

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4. $7x^2 + 30x + 8$

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5. $3x^2 - 26x + 35$

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6. $x^2 + 15x + 50$

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7. $p^2 - p - 42$

( ) ( )

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8. $p^2 - 5p - 14$

( ) ( )

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9. $x^2 - 7x - 18$

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10. $x^2 + 15x + 54$

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Chapter 8B – Factoring Review Name_____

In each set of four factored trinomials, place the correct *signs* to give the middle term.

1. a) $2x^2 + 7x - 15 = (2x \quad 3)(x + 5)$
   b) $2x^2 - 7x - 15 = (2x \quad 3)(x - 5)$
   c) $2x^2 - x - 15 = (2x \quad 5)(x \quad 3)$
   d) $2x^2 - 13x + 15 = (2x \quad 3)(x \quad 5)$

2. a) $x^2 + 5x + 6 = (x \quad 2)(x \quad 3)$
   b) $x^2 - x - 6 = (x \quad 2)(x \quad 3)$
   c) $x^2 + x - 6 = (x \quad 2)(x \quad 3)$
   d) $x^2 - 5x + 6 = (x \quad 2)(x \quad 3)$

3. a) $3x^2 - 5x - 2 = (3x \quad 1)(x \quad 2)$
   b) $3x^2 - 7x + 2 = (3x \quad 1)(x \quad 2)$
   c) $3x^2 + 7x + 2 = (3x \quad 1)(x \quad 2)$
   d) $3x^2 + 5x - 2 = (3x \quad 1)(x \quad 2)$

4. a) $x^2 + 7x + 6 = (x \quad 6)(x \quad 1)$
   b) $x^2 - 7x + 6 = (x \quad 6)(x \quad 1)$
   c) $x^2 + 5x - 6 = (x \quad 6)(x \quad 1)$
   d) $x^2 - 5x - 6 = (x \quad 6)(x \quad 1)$

Factor each trinomial. Show each trial including the OI check. Box/circle final answer.

5. $2x^2 - 7x + 5$

6. $5x^2 - 13x + 6$

7. $5x^2 - 7x - 6$

8. $4y^2 + 8y + 3$

9. $3m^2 + 5m - 28$

10. $2x^2 + 13x + 15$

11. $12y^2 + 7y + 1$

12. $5a^2 - 42a - 27$

13. $8p^2 - 10p + 3$

14. $2v^2 - 3v - 20$

15. $12p^2 - 32p + 5$

16. $w^2 - 10w + 9$

17. $9n^2 + 6n + 1$

18. $9x^2 - 4$

19. $x^2 - 36$

20. $4p^2 - 11p + 6$

21. $6x^2 + 7x - 10$

22. $4y^2 - 17y + 15$

23. $15x^2 - 28x - 32$

Circuit Training – Factoring Trinomials Name_____

Directions: Begin in cell #1. Factor each trinomial and show the work necessary. You may need additional sheets of paper. No technology/calculator is needed. Circle your answer and then search for it. When you find it, call that cell #2 and proceed in this manner until you complete the circuit. The answer for "cell #20" will be the answer in "cell #1".

Answer: $(5x-2)(x-3)$ #_1_ $2x^2-5x-3$	Answer: $(x-12)(x-2)$ # _____ $x^2-6x-16$
Answer: $(5x-7)(x-3)$ # _____ x^2+x-12	Answer: $(x-9)(x-1)$ # _____ $3x^2-7x-6$
Answer: $(x-10)(x-2)$ # _____ $2x^2-13x+21$	Answer: $(3x-5)(x+2)$ # _____ $2x^2+9x+7$
Answer: $(6x-5)(x+1)$ # _____ $x^2-14x+24$	Answer: $(2x+1)(x-3)$ # _____ $2x^2-3x-14$
Answer: $(2x-7)(x+2)$ # _____ $2x^2+7x+6$	Answer: $(3x+5)(x+1)$ # _____ $3x^2+x-10$

Answer: $(2x+3)(x+2)$ #_____ $x^2-5x-14$	Answer: $(2x+1)(2x+3)$ #_____ $6x^2+x-5$
Answer: $(2x+7)(x+1)$ #_____ $5x^2-17x+6$	Answer: $(3x+2)(x-3)$ #_____ $6x^2-7x-3$
Answer: $(x-3)(2x-7)$ #_____ $5x^2+16x+3$	Answer: $(5x+1)(x+3)$ #_____ $x^2-10x+9$
Answer: $(x+4)(x-3)$ #_____ $3x^2+8x+5$	Answer: $(x-8)(x+2)$ #_____ $5x^2-22x+21$
Answer: $(2x-3)(3x+1)$ #_____ $4x^2+8x+3$	Answer: $(x-7)(x+2)$ #_____ $x^2-12x+20$

Factoring "Color It" Puzzle

Name_____

Hour_____

Factor the trinomials and find one factor in the left column (how to color it) and one factor in the right column (which letter to color).

R	F	A	J	G	I	P	P	F	A	J	H	E	Q
K	H	D	M	L	A	E	F	H	B	P	L	A	E
J	B	V	S	W	C	G	H	B	Q	M	P	C	J
H	V	W	J	I	M	C	B	Q	K	G	M	N	A
A	I	O	L	G	I	S	Q	K	H	D	W	K	H
L	G	E	O	C	J	I	F	G	B	X	F	G	D
M	C	A	I	R	L	H	J	D	X	K	A	D	Y
N	N	L	J	E	U	C	B	R	F	J	D	Z	R
O	O	N	C	H	E	U	Q	K	J	B	S	Y	X
N	V	O	V	C	A	I	F	A	D	P	O	R	Y
U	Q	U	N	P	L	G	G	B	M	Y	N	S	X
R	T	S	T	T	Y	L	D	U	T	V	T	W	X

(x + 1)	(x – 1)	A
(x + 2)	(x – 2)	B
(x + 3)	(x – 3)	C
(x + 4)	(x – 4)	D
(x + 5)	(x – 5)	E
(x + 6)	(x – 6)	F
(x – 7)	(x + 7)	G
(x – 8)	(x + 8)	H
(x – 10)	(x + 9)	I
(x – 11)	(x + 10)	J
(x – 12)	(x + 11)	K
(x – 9)	(x + 12)	L

$x^2 + 13x + 12$ $x^2 + 14x + 40$ $x^2 + 13x + 42$

$x^2 - 11x + 28$ $x^2 - 13x + 40$ $x^2 - 16x + 60$

$x^2 + x - 2$ $x^2 + x - 6$ $x^2 + 2x - 15$

$x^2 - 3x - 88$ $x^2 - 3x - 108$ $x^2 + 2x - 99$

Int. Algebra Name_____

Factoring GCF

Due_____ Hour____

Factor each completely.

1) $20 + 30n$

2) $81n^4 - 45$

3) $-3m^4 + 10m$

4) $7p^2 + 63$

5) $-16v^7 + 20v^4 + 32v^3$

6) $42r + 21r^3 + 7r^2$

7) $-9k + 9 - 30k^6 - 15k^2$

8) $-7m^4 + 63m^3 - 35m^2 + 56m$

9) $24n^4 - 48n^2 + 6n - 54$

10) $-81 + 27x + 90x^3 - 72x^4$

11) $-30x^4 - 40x^2 - 80x$

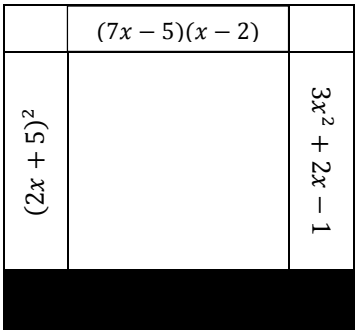
12) $36k^4 + 16k - 28$

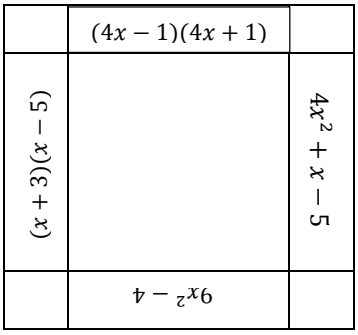
13) $-14xy^4 - 2y + 20$

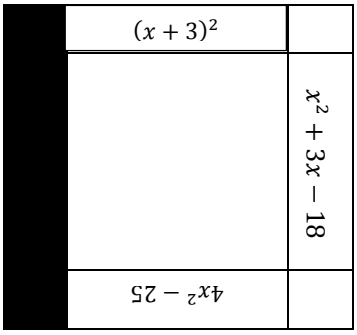
14) $4x - 16y + 20$

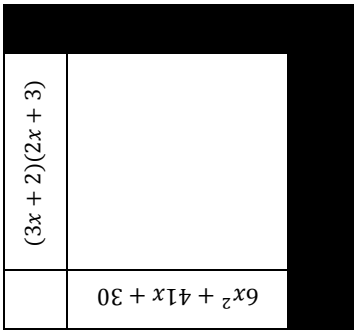
Factoring Puzzle – Cut Out Squares

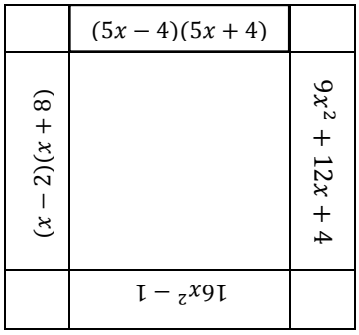
Cut the squares apart.
Match equivalent expressions.
You should get a new 4 x 4 Square.

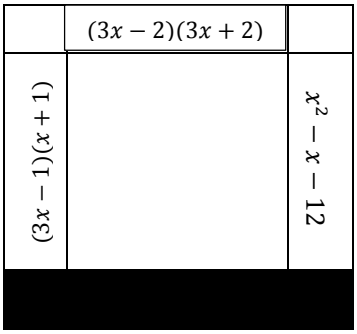


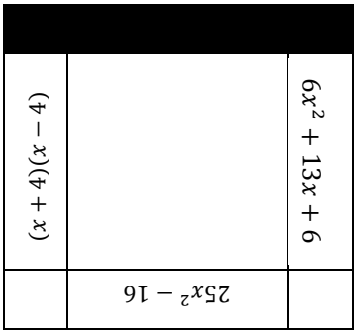


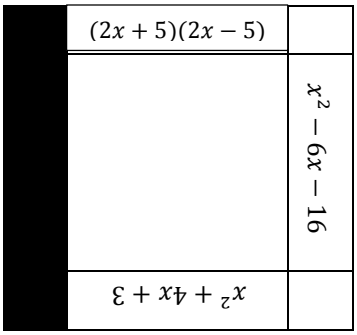


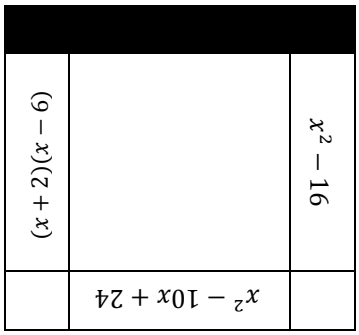


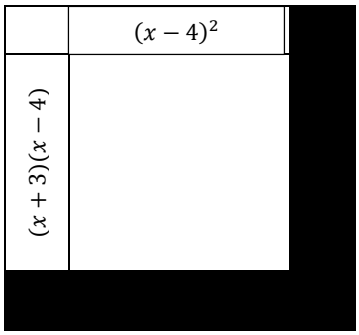


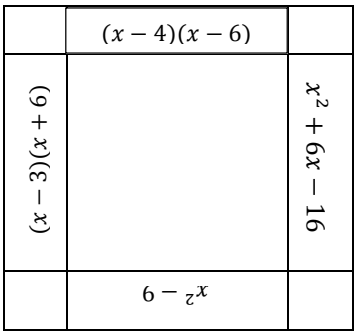


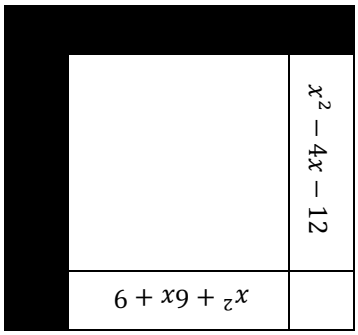


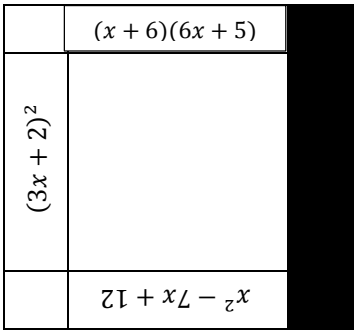


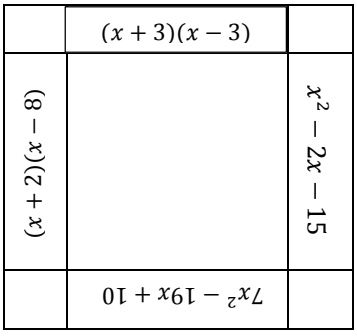


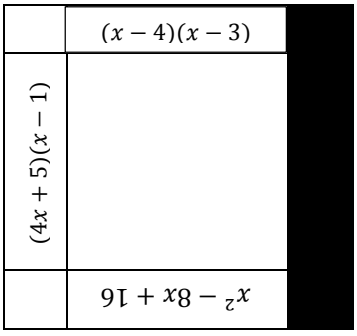


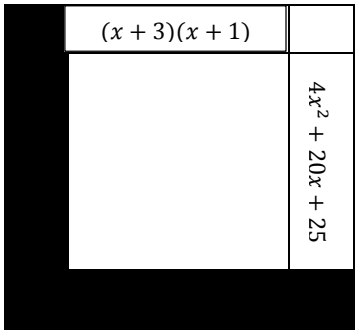












Factoring Trinomials Match Up

Name_____

Factor each trinomial. Glue the two binomials that are the factors into the boxes below the trinomial.

$x^2 + 8x + 7$

$x^2 + 10x + 16$

$x^2 + 10x + 24$

$x^2 + 8x + 15$

$x^2 + 18x + 81$

$x^2 + 10x + 21$

$3x^2 - 2x - 5$

$2x^2 + 3x - 9$

$3x^2 - 8x + 4$

$5x^2 + 19x + 12$

$2x^2 + 11x + 5$

$2x^2 + 5x + 2$

$3x^2 + 5x + 2$

$9x^2 - 9x - 10$

$2x^2 - 5x + 2$

$10x^2 + 3x - 4$

$9x^2 + 12x - 5$

$10x^2 - 7x + 1$

Ch 8B Cl-3 Quiz Name:_____ Hr: _____

Find each product. **Show your O and I work to prove the correct multiple choice answer.**

1) $(7x+4)(x+5)$

A) $9x^2+56$
B) $7x^2+20$
C) $7x^2+39x+20$
D) $9x^2-45x+56$

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

A) $3k^2+19k+28$
B) $3k^2-5k-28$
C) $4k^2-17k+15$
D) $3k^2+5k-28$

3) $(4b+6)(5b-7)$

A) $20b^2-58b+42$
B) $20b^2+2b-42$
C) $20b^2-42$
D) $6b^2-22b+12$

4) $(3b-7)(8b+8)$

A) $56b^2+8b-64$
B) $56b^2+64$
C) $24b^2-32b-56$
D) $56b^2-120b+64$

5) $(2m+1)(4m+4)$

6) $(6n-5)(4n-3)$

Fill in the missing terms and then show how the middle term is a result of the factors chosen.

7. $6x^2-10x-16$

$(3x-8)(\ 2x\qquad)$

8. $4k^2-17k+15$

$(k-3)(\qquad-5)$

9. $7k^2-34k-5$

$(7k\qquad)(k\qquad)$

10. $4k^2+22k-42$

$(k\qquad)(4k\qquad)$