

Good morning!

1. "Here"
2. Review for Factoring Test! Opens today:)
3. Kahoot! after lunch

## What did Mrs. Zling Say When Mr. Zling Said He Was Going Mountain Climbing in the Himalayas?

Factor each trinomial below. Find both factors in the rectangle below and cross out each box containing a factor. You will **cross out two boxes for each exercise**. When you finish, print the letters from the remaining boxes in the squares at the bottom of the page.

1)  $6x^2 + 19x + 3$

6)  $15m^2 + 19m + 6$

2)  $5x^2 - 9x - 2$

7)  $8m^2 - 5m - 3$

3)  $9x^2 + 15x + 4$

8)  $4m^2 - 17m + 18$

4)  $7x^2 + x - 8$

9)  $14m^2 + 17m - 22$

5)  $2x^2 - 21x + 40$

10)  $3m^2 - m - 30$

TH (4m - 9)	AT (3x + 1)	PA (m - 2)	DO (m - 3)	NE (2x - 5)	XT (3m - 10)	CK (14m - 11)	YO (2m - 3)	UR (5x + 1)
UP (6x + 1)	UW (15m + 1)	IN (x + 3)	PL (m + 2)	AN (x + 4)	DA (5m + 3)	RE (x - 2)	MA (3m + 2)	TT (9x + 2)
CO (7x + 8)	LD (3x + 4)	IB (7x + 2)	ER (8m + 3)	AJ (m + 3)	ET (7m + 2)	ON (x - 8)	HI (m - 1)	GH (x - 1)

D
O
Y
O
U
W
A
N
T
T
I
B
E
T

## What Happened When the Boarding House Blew Up?

Factor each trinomial below. Find one of the factors in **each** column on binomials. Notice the letter next to one factor and the number next to the other. Write the letter in the box at the bottom of the page that contains the matching number

1) $3x^2 + 7x + 2$	5. $(5u + 3)$	Y. $(3u - 2)$
2) $2x^2 + 5x + 3$	3. $(x - 1)$	E. $(x - 5)$
3) $3x^2 - 16x + 5$	8. $(3x + 1)$	G. $(8u - 1)$
4) $7x^2 - 9x + 2$	14. $(3u - 1)$	O. $(7x - 2)$
5) $6u^2 + 5u + 1$	6. $(2u + 3)$	R. $(5u + 1)$
6) $8u^2 - 9u + 1$	15. $(x + 1)$	W. $(x + 2)$
7) $10u^2 + 17u + 3$	9. $(5u + 6)$	L. $(7x + 2)$
8) $9u^2 - 9u + 2$	11. $(3x - 1)$	I. $(2x + 3)$
9) $5u^2 + 11u + 6$	7. $(2u + 1)$	E. $(u + 1)$
	17. $(u - 1)$	S. $(3u + 1)$
10) $3n^2 + 2n - 1$	12. $(3t - 1)$	N. $(n + 3)$
11) $5n^2 - 4n - 1$	5. $(n - 1)$	R. $(t - 1)$
12) $2n^2 + 5n - 3$	4. $(3t + 1)$	P. $(2t + 1)$
13) $7n^2 - 13n - 2$	10. $(n - 2)$	O. $(n + 1)$
14) $3t^2 + 14t - 5$	13. $(t + 1)$	F. $(t + 5)$
15) $4t^2 - 11t + 7$	2. $(3n - 1)$	E. $(5n + 1)$
16) $6t^2 + 5t - 1$	16. $(2n - 1)$	M. $(t - 7)$
17) $3t^2 - 20t - 7$	4. $(3t - 7)$	R. $(7n + 1)$
	1. $(4t - 7)$	L. $(6t - 1)$

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
R	O	O	M	E	R	S	W	E	R	E	F	L	Y	I	N	G

### Factoring Matching Worksheet

Factor each quadratic expression below and match it to one of the answer choices.

A: $3(x-2)(x+4)$	B: $4x(x-3)$	C: $2(x+2)(x+4)$
D: $(5x-3)(x-2)$	E: $(5x-6)(x-5)$	F: $(x-2)^2$
G: $(4x+1)(4x-1)$	H: $3(x+2)^2$	I: $2(x+2)^2$
J: $(x+2)(x-2)$	K: $(2x-5)(3x-2)$	L: $2(3x+1)(3x-1)$
M: $(5x-1)^2$	N: $(4x+1)^2$	O: $3(3x+2)(3x-2)$
P: $(2x+3)(x+5)$	Q: $(3x+2)(2x+1)$	R: $6x(x-6)$

1)  $3x^2 + 12x + 12$  3 terms  
 ① GCF  
 ② Trinomial  
 $3(x+2)^2$

2)  $16x^2 - 1$  2 terms  
 ① Diff. of  $\square$   
 $(4x+1)(4x-1)$

3)  $6x^2 - 19x + 10$  3 terms  
 ① Trinomial  
 $(2x-5)(3x-2)$

4)  $3x^2 + 6x - 24$  3 terms  
 ① GCF  
 ② Trinomial  
 $3(x+4)(x-2)$

5)  $2x^2 + 8x + 8$  3 terms  
 ① GCF  
 ② Trinomial  
 $2(x+2)^2$

6)  $6x^2 - 36x$  2 terms  
 ① GCF  
 $6x(x-6)$

7)  $18x^2 - 2$  2 terms  
 ① GCF  
 ② Diff. of  $\square$   
 $2(3x+1)(3x-1)$

8)  $x^2 - 4x + 4$  3 terms  
 ① Trinomial  
 $(x-2)^2$

9)  $27x^2 - 12$  2 terms  
 ① GCF  
 ② Diff. of  $\square$   
 $3(3x+2)(3x-2)$

10)  $x^2 - 4$

11)  $16x^2 + 8x + 1$

12)  $2x^2 + 13x + 15$

1)  $3x^2 + 12x + 12$  3 terms

① GCF  
② Trinomial

$\rightarrow (x^2 + 4x + 4)$   
 $\boxed{3(x+2)^2}$

~~$3x^2 + 12x + 12$  3 terms~~

$\begin{array}{r} \text{a.c.} \\ 1 \cdot 4 \\ 2 \quad 2 \\ \hline 4 \end{array}$ 
 $\begin{array}{r} 4 \\ 1 \quad 4 \\ \hline 2 \quad 2 \end{array}$

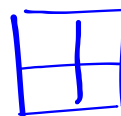
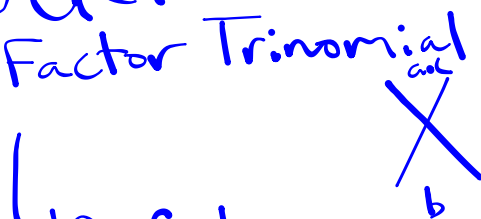
$\begin{array}{r} b \\ x \\ -2 \end{array} \begin{array}{|c|c|} \hline x+2 & \\ \hline x^2 & 2x \\ \hline 2x & 4 \\ \hline \end{array}$

$(x+2)(x+2)$   
 $\rightarrow 3(x+2)^2$

Two terms: ① GCF  
② Difference of Squares

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Three terms: ① GCF  
② Factor Trinomial



Perfect  
□ Trinomial  
a. 1<sup>st</sup> and last terms  
are perfect squares  
b. middle term is  
double product of square roots  
of 1<sup>st</sup> and last terms

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Four terms: ① Grouping  
a. GCF first 2 terms  
b. GCF last 2 terms  
c. GCF terms (SAME)

## Additional Factoring Practice

Factor each completely. Remember to check for a GCF first!

1)  $7n^2 + 4n - 20$

2)  $4n^2 - 28n - 72$

3)  $8x^2 + 20x - 48$

4)  $9n^2 - 36n + 20$

5)  $10m^2 - 31m + 15$

6)  $n^2 + 3n - 18$

7)  $18x^2 - 30x - 72$

8)  $30x^2 + 69x + 18$

18

9)  $4x^2 + 23x + 15$

10)  $m^2 - 8m + 7$

11)  $x^2 + x - 2$

12)  $6n^2 + 18n - 240$

13)  $30n^2 - 162n - 336$

14)  $2n^2 - 21n + 27$

15)  $4x^2 + 12x - 280$

16)  $12x^2 - 44x - 16$

17)  $3x^2 - 6x - 9$

18)  $10n^2 - 13n - 30$



$$\begin{array}{l} (+)(-) = - \\ (-)(+) = - \end{array} \left. \vphantom{\begin{array}{l} (+)(-) = - \\ (-)(+) = - \end{array}} \right\} \text{opposite}$$
$$\begin{array}{l} (+)(+) = + \\ (-)(-) = + \end{array} \left. \vphantom{\begin{array}{l} (+)(+) = + \\ (-)(-) = + \end{array}} \right\} \text{SAME}$$

$$\begin{array}{r} -15 \\ +5 \quad -3 \\ +2 \end{array}$$

$$\begin{array}{r} 15 \\ 1 \overline{) 15} \\ \underline{15} \\ 0 \end{array}$$

$$\begin{array}{r} -42 \\ +7 \quad -6 \\ 1 \end{array}$$

$$\begin{array}{r} 42 \\ \hline 1 \mid 42 \\ 2 \mid 21 \\ 3 \mid 14 \\ 4 \mid 10 \\ 5 \mid 8 \\ 6 \mid 7 \end{array}$$

$$2x^2 + 5x + 2$$

$$\begin{array}{r} \text{a.c} \\ 2 \cdot 2 \\ 4 \end{array} \quad \begin{array}{r} 4 \\ 1 \ 4 \\ \hline 2 \ 2 \end{array}$$

	$2x + 1$	
$x$	$2x^2$	$  x$
$+2$	$4x$	$+ 2$

$$(2x + 1)(x + 2)$$

$$7x^2 + 53x + 28$$

$$\begin{array}{r} x \\ +7 \end{array} \begin{array}{|c|c|} \hline 7x+4 & \\ \hline 7x^2 & 4x \\ \hline 49x & 28 \\ \hline \end{array}$$
$$(7x+4)(x+7)$$

$$\begin{array}{r} a.c \\ 196 \\ \hline 4 \quad 49 \\ \hline 53 \end{array}$$

$$\begin{array}{r} 196 \\ \hline 1 \quad 196 \\ 2 \quad 98 \\ \hline 4 \quad 49 \end{array}$$

$$4x^2 - 17x + 4$$

	$x$	$-4$
$4x$	$4x^2$	$-16x$
$-1$	$-1x$	$4$

$$(4x-1)(x-4)$$

$16$	
$-16$	$-1$
	$-17$