

Name _____ Period ____ Date _____

Factoring Polynomials with Coefficients in Front of the x^2 Term

Sometimes when there is a coefficient in front of the x^2 term, it is possible to factor out the *GCF* and then you can factor the remaining polynomial as we have been doing in class.

Example:	$2x^2 + 10x + 12$	
	$2(x^2 + 5x + 6)$	Factor out <i>GCF</i>
	$2(x + 2)(x + 3)$	Factor remaining polynomial

Factor the following expressions.

1. $2x^2 + 8x + 6$

2. $3x^2 + 9x - 30$

3. $2x^2 + 12x - 80$

4. $5x^2 + 15x + 10$

5. $4x^2 + 20x + 16$

6. $5x^2 + 20x - 15$

7. $3x^2 - 18x + 24$

8. $4x^2 - 28x - 32$

9. $6x^2 - 36x + 30$

10. $8x^2 - 8x - 48$

What Happened When the Boarding House Blew Up?

Factor each trinomial below. Find one of the factors in each column of 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 $3x^2 + 7x + 2$
- ② $2x^2 + 5x + 3$
- ③ $3x^2 - 16x + 5$
- ④ $7x^2 - 9x + 2$
- ⑤ $6u^2 + 5u + 1$
- ⑥ $8u^2 - 9u + 1$
- ⑦ $10u^2 + 17u + 3$
- ⑧ $9u^2 - 9u + 2$
- ⑨ $5u^2 + 11u + 6$

- ⑤ $(5u + 3)$
- ③ $(x - 1)$
- ⑧ $(3x + 1)$
- ⑭ $(3u - 1)$
- ⑥ $(2u + 3)$
- ⑮ $(x + 1)$
- ⑨ $(5u + 6)$
- ⑦ $(2u + 1)$
- ⑪ $(3x - 1)$
- ⑰ $(u - 1)$
- ⑶ $(3u - 2)$
- ⑴ $(x - 5)$
- ⑴ $(8u - 1)$
- ⑴ $(7x - 2)$
- ⑴ $(5u + 1)$
- ⑴ $(x + 2)$
- ⑴ $(7x + 2)$
- ⑴ $(2x + 3)$
- ⑴ $(u + 1)$
- ⑴ $(3u + 1)$

- ⑩ $3n^2 + 2n - 1$
- ⑪ $5n^2 - 4n - 1$
- ⑫ $2n^2 + 5n - 3$
- ⑬ $7n^2 - 13n - 2$
- ⑭ $3t^2 + 14t - 5$
- ⑮ $4t^2 - 11t + 7$
- ⑯ $6t^2 + 5t - 1$
- ⑰ $3t^2 - 20t - 7$

- ⑫ $(3t - 1)$
- ⑵ $(n - 1)$
- ⑴ $(3t + 1)$
- ⑩ $(n - 2)$
- ⑬ $(t + 1)$
- ⑵ $(3n - 1)$
- ⑯ $(2n - 1)$
- ⑴ $(3t - 7)$
- ⑴ $(4t - 7)$
- ⑴ $(n + 3)$
- ⑴ $(t - 1)$
- ⑴ $(2t + 1)$
- ⑴ $(n + 1)$
- ⑴ $(t + 5)$
- ⑴ $(5n + 1)$
- ⑴ $(t - 7)$
- ⑴ $(7n + 1)$
- ⑴ $(6t - 1)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
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