Name: _____ Key _____ Date: _____

Factor Completely

◎ Use all of the methods you have learned to factor each trinomial completely
◎ Think about...
- o GCF Factoring
- o Trinomial Factoring
- o DOTS Factorings

Factor each trinomial completely.

1. $6x^2 - 48x$

$6x(x-8)$

2. $x^2 + 17x + 70$

$(x+7)(x+10)$

3. $x^2 - 13x + 30$

$(x-10)(x-3)$

4. $2x^2 - 36x + 160$

$2(x^2 - 18x + 80)$

$2(x-10)(x-8)$

5. $7x^2 - 18x - 40$

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

6. $5x^2 + 31 - 28$

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

7. $35x^2 - 50x$

$5x(7x-10)$

8. $4x^2 - 42x + 108$

$2(2x^2 - 21x + 54)$

$2(2x-9)(x-6)$

9. $x^2 - 25$

$(x+5)(x-5)$

10. $x^2 - 16$

$(x+4)(x-4)$

11. $9x^2 - 1$

$(3x+1)(3x-1)$

12. $25x^2 - 4$

$(5x+2)(5x-2)$

13. $9x^2 + 15x - 50$

$(3x-5)(3x+10)$

14. $9x^2 + 44x - 60$

1	60
2	30
3	20
4	15
5	12
6	10

$(9x-10)(x+6)$

15. $4x^2 + 23x + 28$

1	28
2	14
4	7

$(4x+7)(x+4)$

16. The area of a rectangle is represented by the expression $8x^2 - 2x - 15$. The length is given as $(4x + 5)$. What is an expression for the width?

$$(2x - 3)$$

17. The area of a rectangle is represented by the expression $9x^2 - 22x + 7$. The length is given as $(3x - 1)$. What is an expression for the width?

$$(3x + 7)$$

18. The length of a rectangle is expressed as $(5x + 2)$ and the width is expressed as $(x - 4)$. What is an expression for the area of the rectangle?

$$(5x + 2)(x - 4)$$
$$5x^2 - 20x + 2x - 8$$
$$\boxed{5x^2 - 18x - 8}$$

19. The length of a rectangle is expressed as $(3x - 7)$ and the width is expressed as $(x - 11)$. What is an expression for the area of the rectangle

$$(3x - 7)(x - 11)$$
$$3x^2 - 33x - 7x + 77$$
$$\boxed{3x^3 - 40x + 77}$$