Algebra I
11.5 Worksheet
Binomial Factoring
Difference of Two Squares

NAME:_____
DATE:_____ HOUR:____

Factor the following binomials by using the sum and product rule for trinomials.

1. $x^2 - 1 = x^2 + \_\_ x - 1$ Find two integers that multiply to be ___ and add to be ___.

Those integers are ____ and ____.

$x^2 - 1 = (x \quad)(x \quad)$

2. $a^2 - 49 = a^2 + \_\_ a - 49$ Find two integers that multiply to be ___ and add to be ___.

Those integers are ____ and ____.

$a^2 - 49 = (a \quad)(a \quad)$

3. $x^2 - 16 = x^2 + \_\_ x - 16$ Find two integers that multiply to be ___ and add to be ___.

Those integers are ____ and ____.

$x^2 - 16 = (x \quad)(x \quad)$

4. $b^2 - 64 = b^2 + \_\_ b - 64$ Find two integers that multiply to be ___ and add to be ___.

Those integers are ____ and ____.

$b^2 - 64 = (b \quad)(b \quad)$

5. $x^2 - 121 = x^2 + \_\_x - 121$ Find two integers that multiply to be ___ and add to be ___.

Those integers are ____ and ____.

$x^2 - 121 = (x \quad)(x \quad)$

6. $y^2 - 144 = y^2 + \_\_y - 144$ Find two integers that multiply to be ___ and add to be ___.

Those integers are ____ and ____.

$y^2 - 144 = (y \quad)(y \quad)$

For 1-20, factor using the pattern for the difference of two squares.

$x^2 - (a)^2 = (\ x\ \ )(\ x\ \ )$

1. $x^2 - 9 = (x\ \ )(x\ \ )$
2. $x^2 - 36 = (x\ \ )(x\ \ )$
3. $b^2 - 25 = (b\ \ )(b\ \ )$
4. $x^2 - 100 = (x\ \ )(x\ \ )$
5. $c^2 - 81 = (c\ \ )(c\ \ )$
6. $b^2 - 49 = (b\ \ )(b\ \ )$
7. $y^2 - 4 = (y\ \ )(y\ \ )$
8. $x^2 - 1 = (x\ \ )(x\ \ )$
9. $c^2 - 64 = (c\ \ )(c\ \ )$
10. $x^2 - 400 = (x\ \ )(x\ \ )$
11. $b^2 - 121 = (b\ \ )(b\ \ )$
12. $y^2 - 900 = (y\ \ )(y\ \ )$
13. $x^2 - 144 = (x\ \ )(x\ \ )$
14. $c^2 - 169 = (c\ \ )(c\ \ )$
15. $x^2 - 196 = (x\ \ )(x\ \ )$
16. $c^2 - 225 = (c\ \ )(c\ \ )$
17. $b^2 - 256 = (b\ \ )(b\ \ )$
18. $x^2 - 16 = (x\ \ )(x\ \ )$
19. $b^2 - 1600 = (b\ \ )(b\ \ )$
20. $c^2 - 10000 = (c\ \ )(c\ \ )$

In 21- 40, factor.
(hint: 7 of the polynomials are PRIME)

21. $y^2 - 2y - 3 = (y\ \ )(y\ \ )$
22. $x^2 + 4 =$ prime
23. $c^2 - 9c + 18 =$
24. $x^2 - 12x + 3 =$
25. $a^2 + 49 =$
26. $b^2 + 3b - 28 =$
27. $r^2 - 5r - 6 =$
28. $y^2 + 100 =$
29. $x^2 - 19x - 7 =$
30. $b^2 + 9b - 21 =$
31. $x^2 - 8x + 15 =$
32. $e^2 + 14e - 32 =$
33. $x^2 - 21x - 100 =$
34. $y^2 + 10y - 75 =$
35. $t^2 - 13t - 48 =$
36. $d^2 + 12d + 32 =$
37. $x^2 + 5x + 4 =$
38. $h^2 + 2h - 3 =$
39. $h^2 + 9 =$
40. $x^2 + 6x + 5 =$