# Factorization Worksheet 2

## III. Factoring the Difference of Two Squares

$$a^2 - 36 = (a + 6)(a - 6)$$
$$3x^2 - 48 = 3(x^2 - 16) = 3(x + 4)(x - 4)$$

Factor, write prime if prime.

1. $x^2 - 1$
2. $x^2 - 9$
3. $x^2 + 4$
4. $x^2 - 25$
5. $9y^2 - 16$
6. $4x^2 - 25$
7. $9x^2 - 1$
8. $a^2 - x^2$
9. $25 - m^2$
10. $x^2 - 16y^2$
11. $25m^2 - n^2$
12. $-x^2 + 16$
13. $36m^2 - 121$
14. $2x^2 - 8$
15. $25 + 4x^2$
16. $4a^2 - 81b^2$
17. $12x^2 - 75$
18. $a^2b - b^3$
19. $-98 + 2x^2$
20. $5x^2 - 45y^2$
21. $9x^4 - 4$
22. $16x^4 - y^2$

# Answers

## III. Factoring the Difference of Two Squares

1. $(x + 1)(x - 1)$
2. $(x + 3)(x - 3)$
3. prime
4. $(x + 5)(x - 5)$
5. $(3y + 4)(3y - 4)$
6. $(2x + 5)(2x - 5)$
7. $(3x + 1)(3x - 1)$
8. $(a + x)(a - x)$
9. $(5 + m)(5 - m)$
10. $(x + 4y)(x - 4y)$
11. $(5m + n)(5m - n)$
12. $(4 + x)(4 - x)$
13. $(6m + 11)(6m - 11)$
14. $2(x + 2)(x - 2)$
15. prime
16. $(2a + 9b)(2a - 9b)$
17. $3(2x + 5)(2x - 5)$
18. $b(a + b)(a - b)$
19. $-2(7 + x)(7 - x)$ *or* $2(x + 7)(x - 7)$
20. $5(x + 3y)(x - 3y)$
21. $(3x^2 + 2)(3x^2 - 2)$
22. $(4x^2 + y)(4x^2 - y)$