



# Factoring

## 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.  $x^2 - 1$

12.  $-x^2 + 16$

2.  $x^2 - 9$

13.  $36m^2 - 121$

3.  $x^2 + 4$

14.  $2x^2 - 8$

4.  $x^2 - 25$

15.  $25 + 4x^2$

5.  $9y^2 - 16$

16.  $4a^2 - 81b^2$

6.  $4x^2 - 25$

17.  $12x^2 - 75$

7.  $9x^2 - 1$

18.  $a^2b - b^3$

8.  $a^2 - x^2$

19.  $-98 + 2x^2$

9.  $25 - m^2$

20.  $5x^2 - 45y^2$

10.  $x^2 - 16y^2$

21.  $9x^4 - 4$

11.  $25m^2 - n^2$

22.  $16x^4 - y^2$



## Factoring Perfect Square Trinomials

$$x^2 - 14x + 49 = (x - 7)^2$$

Factor, write prime if prime.

1.  $x^2 + 8x + 16$

11.  $25a^2 + 60a + 36$

2.  $x^2 - 16x + 64$

12.  $16 + 40x + 25x^2$

3.  $y^2 + 12y + 36$

13.  $16x^2 + 24x + 9$

4.  $a^2 - 10a + 25$

14.  $49x^2 - 14x + 1$

5.  $16y^2 + 8y + 1$

15.  $9y^2 - 30y + 25$

6.  $9x^2 - 6x + 1$

16.  $n^2 + 2n + 4$

7.  $25x^2 + 10x + 1$

17.  $b^2 + 2b + 1$

8.  $n^2 - 14n + 49$

18.  $36x^2 + 84x + 49$

9.  $81x^2 - 90x + 25$

19.  $81 - 18x + x^2$

10.  $4y^2 - 20y + 25$

20.  $4 - 12y + 9y^2$