

## Factoring the Difference of Two Squares

$$\begin{array}{l} x^2 - y^2 = \\ (x - ) (x - y) \end{array}$$



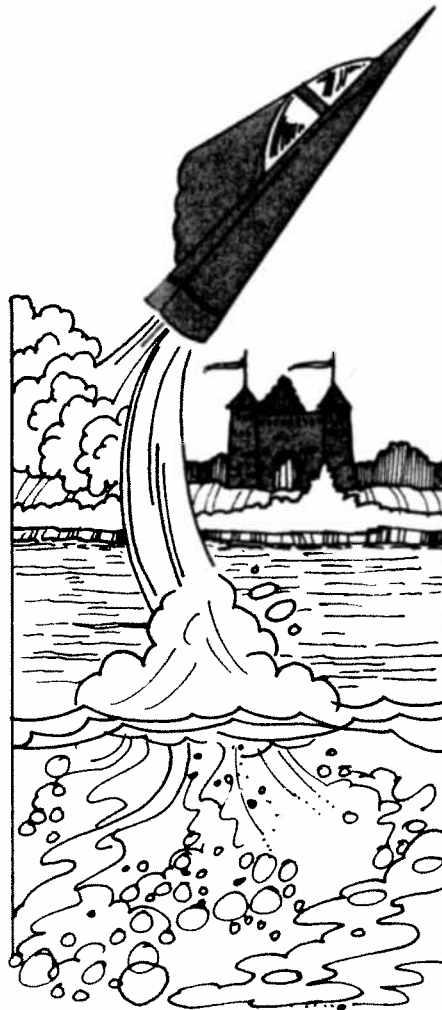
$$x^2 - y^2 = (x - y)(x + y)$$

### Tip

If there is no middle product in the difference of two squares, the operations in the binomial factors must be opposite.

Factor each expression. Use the code to learn who was the first woman in space.

1.  $x^2 - 4 =$
2.  $x^2 - 49 =$
3.  $x^2 - 100 =$
4.  $x^2 - 25 =$
5.  $x^2 - 1 =$
6.  $x^2 - 9 =$
7.  $x^2 - 16 =$
8.  $x^2 - 36 =$
9.  $x^2 - 64 =$
10.  $x^2 - 81 =$
11.  $4x^2 - 9 =$
12.  $9x^2 - 4 =$
13.  $25x^2 - 1 =$
14.  $81x^2 - 4 =$
15.  $49x^2 - 16 =$
16.  $64x^2 - 49 =$
17.  $100x^2 - 81 =$
18.  $36x^2 - 9y^2 =$



- E  $(x + 9)(x - 9)$
- E  $(3x - 2)(3x + 2)$
- T  $(x - 10)(x + 10)$
- V  $(x + 6)(x - 6)$
- R  $(x - 4)(x + 4)$
- N  $(x - 2)(x + 2)$
- V  $(x - 7)(x + 7)$
- S  $(10x - 9)(10x + 9)$
- A  $(x - 5)(x + 5)$
- A  $(x - 1)(x + 1)$
- T  $(x + 3)(x - 3)$
- L  $(x - 8)(x + 8)$
- N  $(6x + 3y)(6x - 3y)$
- H  $(2x - 3)(2x + 3)$
- I  $(9x - 2)(9x + 2)$
- E  $(5x - 1)(5x + 1)$
- O  $(7x - 4)(7x + 4)$
- K  $(8x - 7)(8x + 7)$

8 4 9 13 1 3 14 18 5

6 10 7 12 17 11 16 15 2 4