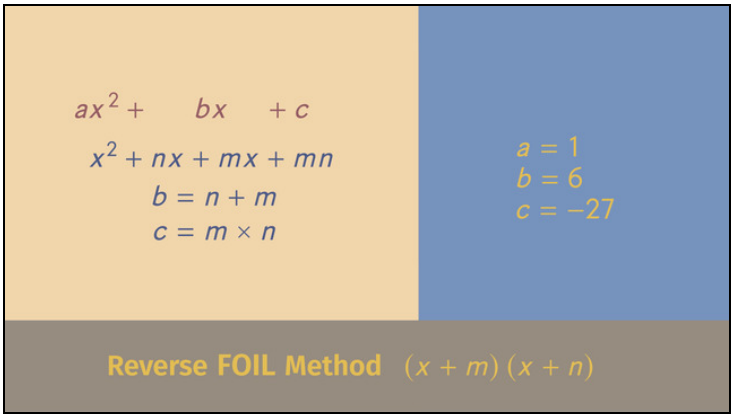
Printable Worksheets from sofatutor.com

Factoring Trinomials with a = 1



1. **Describe the FOIL method for multiplying binomials.**
2. Explain how Johnny Redbeard can factor the trinomial $x^2 + 6x - 27$
3. Find all possible factors of -27 and add them together to identify m and n.
4. Assign each polynomial to its corresponding factorization.
5. Factor the given polynomials in order to open the treasure chests.
6. Write each trinomial as a product of two binomials by factoring.

\+ with lots of tips, answer keys, and detailed answer explanations for all of the problems.

Describe the FOIL method for multiplying binomials.

Choose the correct statements.

$$(x-3)(x+9) = ?$$

- [ ] **A** **F** stands for **f**actoring.
- [ ] **B** **F** stands for multiplying the **f**irst terms of the two binomials, $x \times x = x^2$.
- [ ] **C** **O** stands for the **o**rder of a polynomial.
- [ ] **D** **O** stands for multiplying the **o**uter terms of the two binomials, $x \times 9 = 9x$.
- [ ] **E** **I** stands for multiplying the **i**nner terms of the two binomials, $3 \times x = 3x$.
- [ ] **F** **L** stands for multiplying the **l**ast terms of the two binomials, $-3 \times 9 = -27$.

Hints for solving these problems

1 of 6

Describe the FOIL method for multiplying binomials.

Hint #1

Pay attention to the signs.

Hint #2

FOIL is the mnemonic used to remember how to multiply two binomials.

Hint #3

Keep in mind that the result of the multiplication above is

$x^2 + 6x - 27$

Answers and detailed answer explanations for these problems

1 of 6

Describe the FOIL method for multiplying binomials.

Answer key: B, D, F

FOIL multiplication stands for

- **F**irst - multiply the both first terms $x \times x = x^2$
- **O**uter - multiply the outer terms $x \times 9 = 9x$
- **I**nner - multiply the inner terms $-3 \times x = -3x$
- **L**ast - multiply the last terms $-3 \times 9 = -27$

So we get:

$$\begin{aligned} (x-3)(x+9) &= \\ x^2+9x-3x-27 &= \\ &= x^2+6x-27 \end{aligned}$$