Algebraic equations

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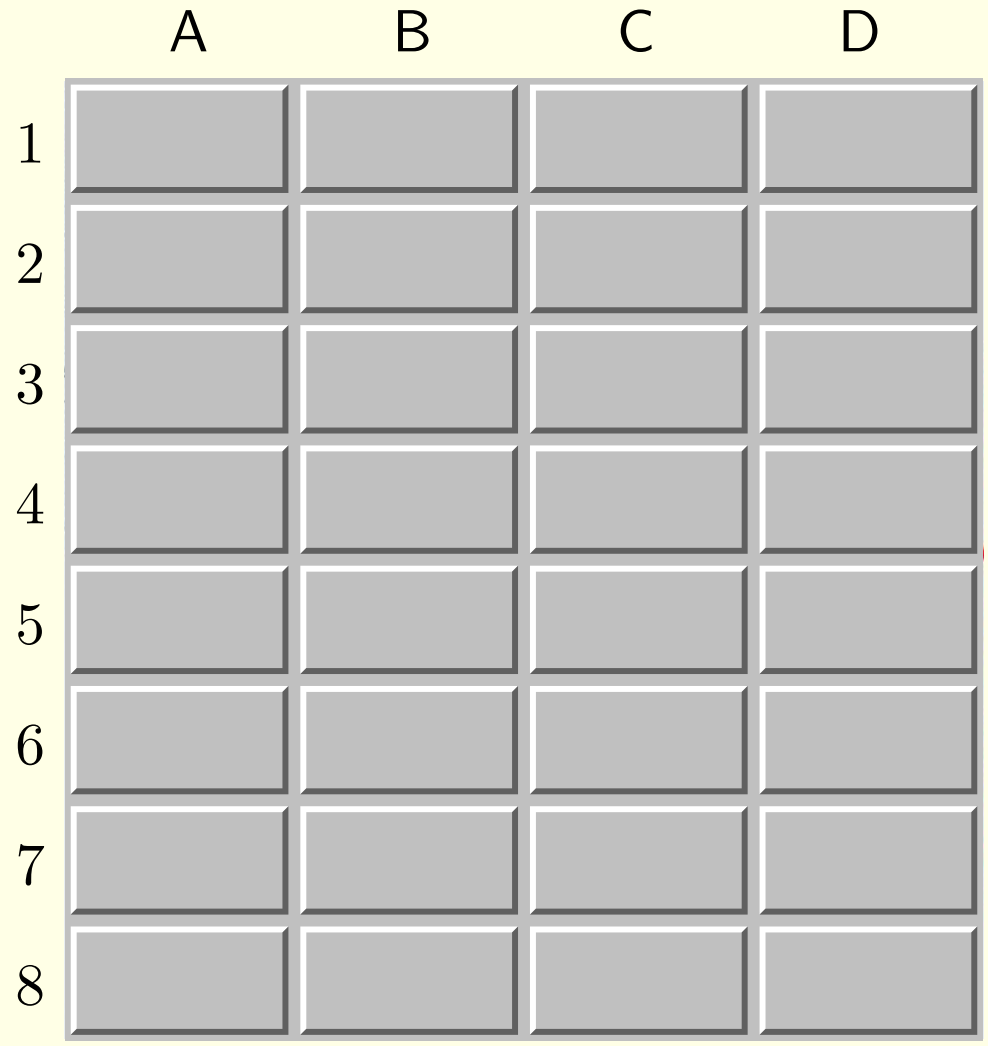
You will solve algebraic equations. Write the solutions as comma separated list, In the case of repeted solution write each solution only **once**!

Jeopardy Game



Solution

A

Solve the equation in the set of *real* numbers.

$$x + 1 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$2x - 3 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$5x + 15 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$7x + 13 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$3x + 1 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$2x + 7 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$5x - 6 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

A

Solve the equation in the set of *real* numbers.

$$7x - 13 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 + x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 - 9 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 - 7 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 + 4x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 - x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 + 9 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

B

Solve the equation in the set of *real* numbers.

$$x^2 - 4x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 + x + 1 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 - 6x + 9 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 - 7x + 6 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 + 4x + 4 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 - 3x + 2 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 + 2x + 9 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 - 5x + 6 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

C

Solve the equation in the set of *real* numbers.

$$x^2 + 4x - 21 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^8 - 2 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^3 - 2x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^4 - 1 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^3 - 8 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^5 - x^3 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^6 - x^5 = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^3 + 2x^2 + x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

D

Solve the equation in the set of *real* numbers.

$$x^3 + 4x^2 + 5x = 0$$

- Write the solution into the field.
- If there is no solution, write the word *empty*.

$x =$

Évariste Galois (1811–1832) was a French mathematician born in Bourg-la-Reine. He died in a duel at the age of twenty.

Niels Henrik Abel (1802–1829), Norwegian mathematician, was born in Nedstrand. In early April 1829 he obtained a position in Berlin, but the letter bringing the offer did not reach Norway until two days after Abel's death from tuberculosis.

Both mathematicians proved the impossibility of solving the 5-degree polynomial equation by radicals.