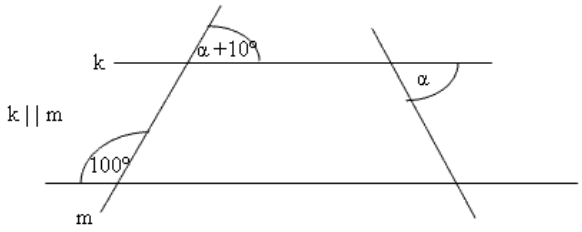
IMIĘ NAZWISKO KLASA

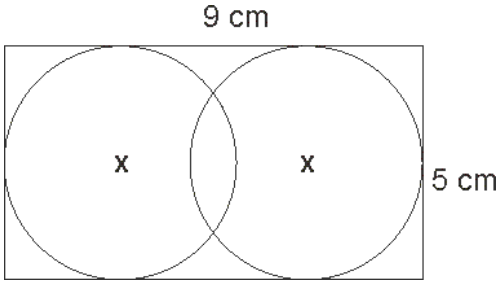
KONKURS I LOVE MATH

1. What is the size of the angle marked α?



A. 60º B. 70º C. 80º D. 90º

2. The diagram shows two circles enclosed in a rectangle measuring 9 cm x 5 cm.



What is the distance between the centres of the circles?

A. 4,5 cm B. 4 cm C. 2,5 cm D. 2 cm

3. If $a * b = \sqrt{ab+4}$ then the value of (2 * 6) * 8 is

A. 6 B. 8 C. 10 D. 12

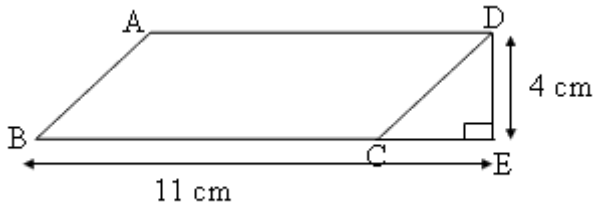
4. If $2^{\square} = 8^3$ what exponent goes in the box?

A. 3 B. 4 C. 6 D. 9

5. What is the biggest natural number which satisfies the inequality $\frac{3x-1}{2} - 1 < \frac{x+6}{3}$

A. 3 B. 2 C. 4 D. 5

6. In the diagram the area of the parallelogram ABCD is 32cm^2. What is the area of the triagle DCE?



A. $6\ cm^2$ B. $8\ cm^2$ C. $12\ cm^2$ D. $0{,}6\ dm^2$

7. If $\frac{F-32}{9} = \frac{C}{5}$ and F = 100 then C is nearly

A. 37 B. 37,7 C. 37,8 D. 39

8. A function is described as follows: For every two-digit natural number you assign the sum of its digits.

a) How many elements are in the domain?
b) What is the value of the function for x = 78?
c) What is the minimum and maximum value of the function?
d) Find the value of input (x) when the value of the function is 5.
e) Sketch the graph of the function for inputs (x) less than 20.

9.

A function is described by formula:

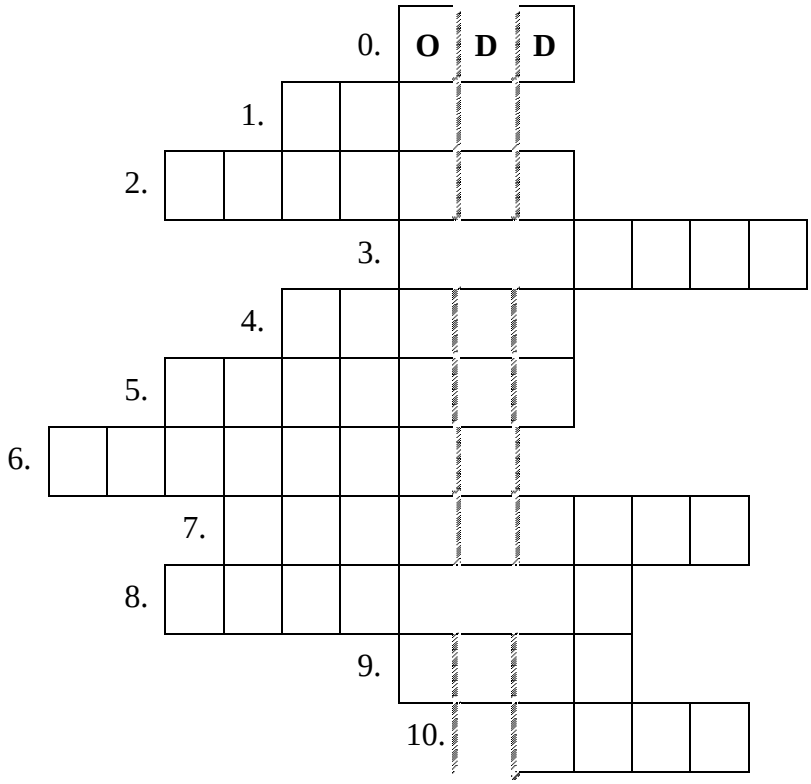
$f(x) = ax + b$.

Given that:

$f(1) + f(-1) = 6$ and $f(2) - f(-2) = -4$

a) Find the value of a and b.
b) Calculate $f(3) + f(-3)$.

10. Complete the puzzle as shown in the example and find the hidden word.



0. Numbers 1, 3, 5, 7, etc. are called …… numbers.
1. A solid of revolution.
2. % means ……
3. $\mathbf{P = \pi r^2}$ is a …….. used to calculate the area of a circle.
4. A number that can be divided exactly only by itself and 1 is a …….. number.
5. A solid figure, a polyhedron.
6. **2x + 8 = 54 + x** is an ……
7. A plane figure with four sides and four right angles.
8. The branch of mathematics that deals with lines, angles, shapes and solids is called ……..
9. 5 subtracted from 9 is …….
10. A relationship between two quantities, e.g. **2 : 3**.