

# „Math challenges”

## I Gminny Konkurs Matematyczny w języku angielskim

dla uczniów klas 7 i 8 szkół podstawowych oraz III klasy gimnazjum

### ETAP GMINNY

Read the instructions:

1. In the ABCD tasks there is only one correct answer.
2. Write the letter you decide is correct on the answer sheet. If you change your mind circle the wrong answer and write the correct one.
2. In open tasks you have some extra space for explanations and for further actions. Remember that on the answer sheet you write the answer only, not the whole explanation.
3. Remember to rewrite the answers on separate answer sheets. Only the answer sheet is going to be checked by the teacher.
4. You have 60 min for the test.
5. In open tasks You don't have to use english for your explanations.
6. Good luck!

.....  
*Imię, nazwisko*

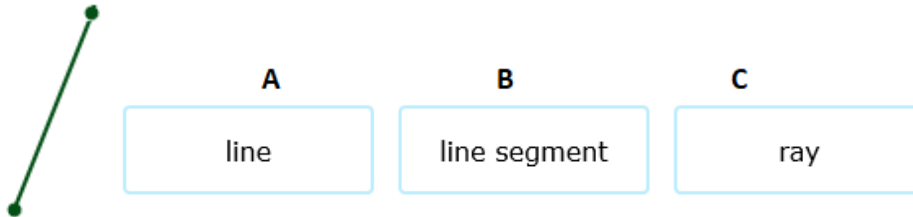
.....  
*klasa*

.....  
*szkoła*

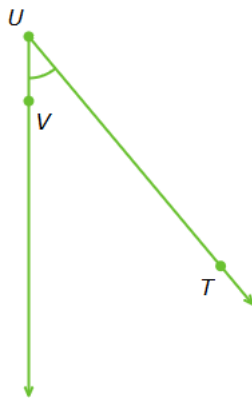
1. The sides of a triangle have lengths 3, 6, and 8. What kind of triangle is it?

- A** **B** **C**
- acute right obtuse

2. What is this?



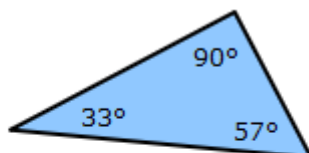
3. Look at this angle:



What is the vertex?

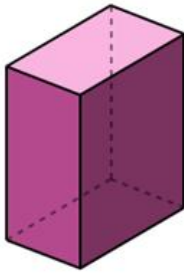
- A** **B** **C**
- U V T

4. What kind of triangle is this?



- A** **B** **C**
- acute right obtuse

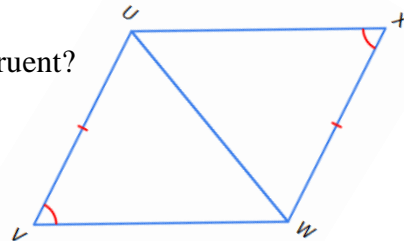
5. Look at this figure:



What is the shape of its bases?

- A** hexagon      **B** nonagon      **C** pentagon      **D** rectangle

6. Which rule explains why these triangles are congruent?



- A** SAS      **B** AAS      **C** SSS      **D** ASA      **E** none of the above; these triangles cannot be proven congruent

7. What is the greatest common factor of 6 and 12?

- A.** 6      **B.** 2      **C.** 3      **D.** 12

8. Maria, a sign maker for a store, makes a sign advertising dry erase boards for sale at a price of \$27 each. However, the dry erase boards only cost the store \$15 each. What percentage is the mark-up?

- A.** 20%      **B.** 80%      **C.** 45%      **D.** 55%

9. Shing takes a sheet of paper and makes a diagonal cut from one corner to the opposite corner, making two triangles. The cut he makes is 20 centimeters long and the width of the paper is 12 centimeters. What is the paper's length?

- A. 16 cm      B. 14 cm      C. 22 cm      D. 23 cm

10. Which of the following statements are true? Write T for true or F for false

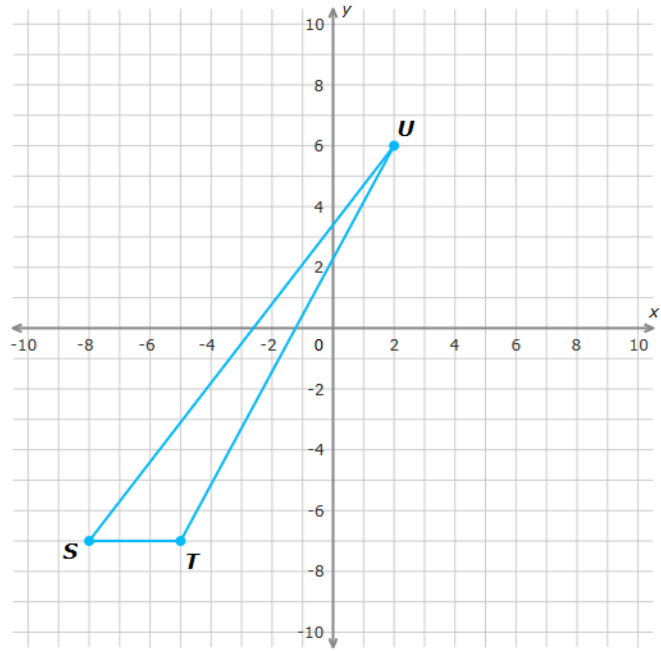
(You don't have to write the answers on separate answer sheet)

1. For every prism side edges are parallel	
2. For every prism the number of all edges is divisible by 3	
3. For every prism from each vertex there are 3 edges	
4. For every prism the number of vertices is even.	
5. For every prism side faces are congruent rectangles.	
6. For every prism side faces are as many as the side edges.	
7. Each parallelogram is a trapezoid.	
8. Some trapezoids are rectangles	
9. Each trapezoid with perpendicular diagonals is a square	
10. Each quadrilateral that has two pairs of sides of equal length is a parallelogram.	

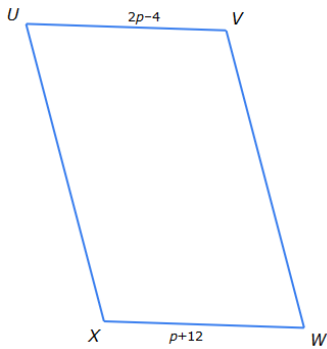
11. Edward measured the elementary school and made a scale drawing.

The scale he used was 3 centimeters : 2 meters. If the actual width of the school yard is 58 meters, how wide is the school yard in the drawing?

12. What is the area of  $\triangle STU$ ?



13. Find the value of  $p$  in parallelogram UVWX.



14. A gopher has dug holes in opposite corners of a rectangular yard. Starting from its hole in the southeast corner, the gopher runs the width of the yard, a distance of 7 meters, and then runs the length of the yard, a distance of 24 meters, to reach his other hole. Finally, the gopher returns to the hole from which it started. How far did the gopher run in Total?

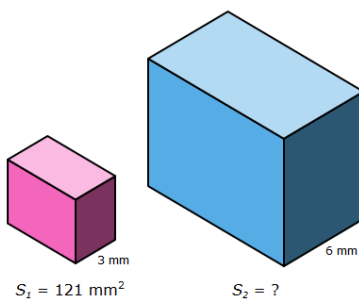


15. Perry's Stationery sells thank-you cards in packs of 9 and birthday cards in packages of 11. Surprisingly, the store sold the same number of each type of card this month. What is the minimum number of each card type that the store must have sold?

16. Estimate the product. Round each factor to the nearest whole number, and then multiply.

$$5.87 \times 3.49$$

17. What is the surface area of the larger rectangular prism?



18. Look at the jumbled letters and think hard what math related word they might be if you put them in the correct order. (You don't have to write the answers on separate answer sheet)

### Math Word Scramble

1. HIOVISND	1.
2. TEMYGOER	2.
3. RBSNUEM	3.
4. INATDODI	4.
5. TSTIAICSTS	5.
6. IATILICLNPTMUO	6.
7. OTTUCNBSRIA	7.
8. FOIATNRSC	8.

.....  
Imię, nazwisko

Answer sheet

Task number	Your answer <i>In tasks 1-9 choose A,B,C,D or student</i>	Points <b>(for the teacher)</b>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.	.....	
In tasks 11 – 17 write what you had calculated, the numbers and units		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.	.....	
SUM OF ALL POINTS:		