## "Math challenges"

## I Gminny Konkurs Matematyczny w języku angielskim

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

## ETAP SZKOLNY

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.
3. 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.
4. Remember to rewrite the answers on separate answer sheets. Only the answer sheet is going to be checked by the teacher.
5. You have 60 min for the test.
6. You can use a dictionary if you need to translate the words you don't understand.
7. Good luck!

Imię, nazwisko
klasa
szkoła

## Part I - tasks 1-10 - every task 1 point

1. Put these numbers in order from least to greatest.
A.
$\frac{18}{30}$
B.
4
C. $-\frac{28}{35}$
D. $-\frac{14}{20}$
A.
CDAB
B.
DCAB
C.
CDBA
D.
DCBA
2. What is the percent of change from 6 to 9 ?
A.
B.
C.
D.
50\% decrease
$50 \%$ increase
$3 \%$ increase
$3 \%$ decrease
3. Look at this shape:


If:
A reflection flips the figure over a line to create a mirror image.
A rotation turns the figure around a point.
A translation slides the figure to a different location.

## Which image shows a translation?


A

B

C
4. What is the name of the triangle?
A.

B.

C.

5. Megan kept a tally of the number of emails she received each day for a week.

| Emails Megan received |  |
| :--- | :---: |
| Day | Emails |
| Tuesday | 2 |
| Wednesday | 0 |
| Thursday | 1 |
| Friday | 0 |
| Saturday | 9 |

According to the table, what was the rate of change between Wednesday and Saturday?
A. 3
B. 8
C. 2,5
D. 6
emails per Day.
6. Look at this figure:

What is the shape of its base?
A.
triangle
triangle
B.
square
square
C.
rectangle circle

7. Look at this rectangle:

If the base is doubled, then which of the following statements about its area will be true?
A.

The new area will be 3 times the old area.

B.

The new area will be 2 times the old area.
C.

The new area will be 4 times the old area.

D
The new area will be $\frac{1}{2}$ of the old area.
8. Laverne works in a store in Lexington where she earns a base salary of $\$ 70$ per week plus a commission of $20 \%$ of sales. If Laverne sold $\$ 70$ worth of merchandise during the first week of the month, what was her total pay that week?

Her total pay that week was:
A. $\$ 140$
B. \$84
C. \$14
D. $\$ 154$
9. $1 / 6$ of the students in the band are in the trumpet section. $2 / 3$ of the students in the band are in the trombone section. What fraction of the students in the band are in either the trumpet section or the trombone section?
A. 1/6
B. 1/2
C.5/6
D.2/3 of the students
10. Victor, a high school student, is taking a class at the local junior college, which is 6 kilometers away from his high school. How far apart are the college and the high school on a map with a scale of 1 centimeter : 3 kilometers?
A. 5 cm
B. $\mathbf{2 ~ c m}$
C. $1,8 \mathrm{~cm}$
D. $0,2 \mathrm{~cm}$

## Part II - open tasks (rewrite the answers to the answer sweet)

11. Simplify. Express your answer using positive exponents. ( $2 p k t$ )

12. Multiply. Assume $q$ and $r$ are greater than or equal to zero, and write your answer in simplest form. (2pkt)

13. Gary bought a frying pan priced at $\$ 34.85$. Shipping and handling cost an additional $20 \%$ of the price. What was the total cost of the frying pan, including shipping and handling? (2 pkt)

14. A rectangular prism is 12 meters long and 2 meters high. Its surface area is 300 square meters. What is the width of the rectangular prism? (3 pkt)

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15. Acery's living room is 9 meters wide and 7.5 meters long. She wants to put a border around the top of the room. The cost of the border i \$ 1.30 per meter. How much will it cost to buy enough of the border to go around the room? (3pkt)

16. Estimate the amount of the tip by rounding the bill to the nearest dollar before calculating. $20 \%$ tip on a bill of $\$ 96.75$ (2 pkt)


The amount of the tip is approximately \$ $\qquad$
$\qquad$
Imię, nazwisko
Answer sheet

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

