



Tủ sách ViOlympic

ĐẶNG MINH TUẤN - NGUYỄN THỊ BÍCH PHƯƠNG

Tự luyện

ViOlympic

5

TOÁN BẢNG
TIẾNG ANH lớp

Math iolympic



NHÀ XUẤT BẢN GIÁO DỤC VIỆT NAM

LỜI NÓI ĐẦU

Các em học sinh yêu quý!

Cuộc thi giải toán qua Internet (VIOlympic) là cuộc thi cấp Quốc gia do Bộ Giáo dục và Đào tạo tổ chức. Tập đoàn FPT, Trường Đại học FPT thực hiện, bắt đầu từ năm học 2008 – 2009. Từ năm học 2013 – 2014, ban tổ chức mở thêm cuộc thi giải Toán bằng Tiếng Anh VIOlympic với 10 vòng thi, từ vòng thi số 1 đến số 6 là vòng thi tự luyện, từ vòng thi số 7 đến vòng thi số 10 là vòng thi các cấp.

Để học sinh làm quen với dạng bài thi hấp dẫn, kích thích tư duy và luyện tập trước khi thi trên máy tính, Tiểu ban nội dung của Ban tổ chức cấp Quốc gia biên soạn bộ sách "Tự luyện VIOlympic Toàn bằng Tiếng Anh". Bộ sách này gồm 4 cuốn dành cho các lớp 4; 5; 8 và 9, mỗi lớp có một tập với cấu trúc 10 vòng thi tương ứng với 10 vòng thi trên trang www.math.vioolympic.vn, mỗi vòng thi tương ứng với ba tuần học theo phân phối chương trình của Bộ Giáo dục và Đào tạo.

Khi làm xong mỗi vòng thi trong cuốn sách này, các em có thể truy cập Internet, vào địa chỉ: www.math.vioolympic.vn để dự thi. Khi vào trang này, các em cần đọc kĩ phần *Trợ giúp* và làm theo hướng dẫn để có thể thi tốt.

Cảm ơn Công ty Cổ phần Sách dân tộc – Nhà xuất bản Giáo dục Việt Nam đã tạo điều kiện để cuốn sách tới được các em.

Các em hãy gửi các ý kiến góp ý cho các tác giả qua hình thư điện tử: vioolympic@moet.edu.vn hoặc gửi qua bưu điện về địa chỉ: Phòng VIOlympic, Trường Đại học FPT, số 8 Tôn Thất Thuyết – Mỹ Đình – Từ Liêm – Hà Nội.

Chúc các em học môn Toán ngày càng say mê hơn, tiến bộ hơn và đạt kết quả cao nhất trong cuộc thi VIOlympic cũng như trong học tập.

CÁC TÁC GIẢ

INSTRUCTIONS FOR USING GRADE 5 BOOK

I. General instruction

"Self-study for 5th Grade Math VIOlympic" covers 10 rounds. From round 1 to round 8, each round consists of 2 corresponding contestation www.vioolympic.vn page Round 9 and round 10, each round consists of 1 corresponding contestation www.vioolympic.vn pages

Students should read carefully to determine the questions of each test. Instructions in Section II should be referred for complex contests.

For the test format of "Choose the correct answer", "Complete results on ...", "Overcome obstacles", "Golden Frog", "Kid Champion", students could directly write answers on the questions.

To take advantage of the books to apply effectively for the website tests, the instructions for test formats of Treasure, Hunting, Matching, Arrangement are as follows:

II. Specific instructions for test format

1. Selection of equal pairs



Example: Find the equal pairs of equal results in the below table's cells.

417 + 168	172 + 465	453 + 374	237 + 415
1	2	3	4
380 + 272	813	392 + 193	555 + 209
5	6	7	8
637	519 + 308	475 + 354	518 + 318
9	10	11	12
583 + 246	452 + 361	464 + 372	764
13	14	15	16
481 + 373	680 + 182	862	528 + 326
17	18	19	20

Cells are numbered in the order of:

Cell No. 1	Cell No. 2	Cell No. 3	Cell No. 4
Cell No. 5	Cell No. 6	Cell No. 7	Cell No. 8
Cell No. 9	Cell No. 10	Cell No. 11	Cell No. 12
Cell No. 13	Cell No. 14	Cell No. 14	Cell No. 16
Cell No. 17	Cell No. 18	Cell No. 19	Cell No. 20

Step 1: Calculate the value of table cells.

Step 2: Compare the calculated values, we can see:

Cell No. 1 and Cell No. 7 have the same value of 585,....so:

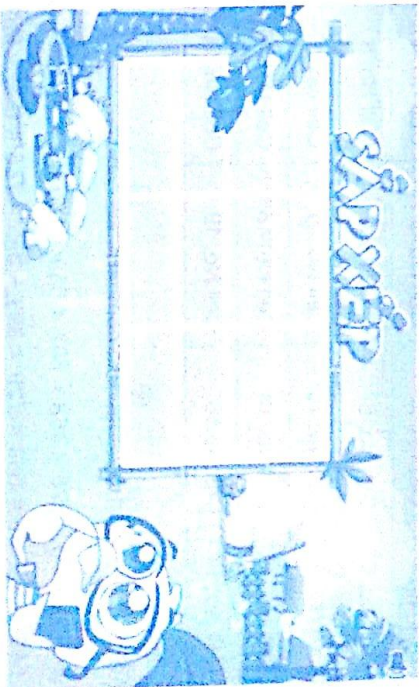
- Cell No. 1 and Cell No. 7 is an equal pair.
- Cell No. 2 and Cell No. 9 is an equal pair.
- Cell No. 5 and Cell No. 4 is an equal pair.

- Cell No. 16 and Cell No. 8 is an equal pair.
- Cell No. 6 and Cell No. 14 is an equal pair.
- Cell No. 10 and Cell No. 3 is an equal pair.
- Cell No. 13 and Cell No. 11 is an equal pair.
- Cell No. 12 and Cell No. 15 is an equal pair.
- Cell No. 17 and Cell No. 20 is an equal pair.
- Cell No. 18 and Cell No. 19 is an equal pair.

Step 3: Write the answers:

- 1 and 7 ; 9 and 2 ; 5 and 4 ; 16 and 8 ; 14 and 6 ;
- 10 and 3 ; 13 and 11 ; 12 and 15 ; 17 and 20 ; 18 and 19.

2. Order arrangement



Example: Write the numerical data of the tables cells with ascending order.

PART I. PRACTICAL TESTS

ROUND 1

TEST 1

EXAM 1 Golden Frog

Choose the correct answer in 4 available answers.



Question 1. Fill in the blank : $1\text{m}^2 = \dots\dots\dots \text{cm}^2$

Choose the correct answer.

- A 10000
- B 1000
- C 100
- D 1000000

Question 2. Choose the correct answer.

Which of the following fractions is greater than 1?

- A $\frac{2}{3}$
- B $\frac{7}{9}$
- C $\frac{11}{12}$
- D $\frac{14}{8}$

Question 3. Choose the correct answer.

Calculate: $\frac{3}{4} \times \frac{5}{4} = \dots\dots\dots$

- A $\frac{8}{4}$
- B $\frac{15}{16}$
- C $\frac{15}{4}$
- D $\frac{8}{16}$

Question 4. Choose the correct answer.

Which fraction is equal to $\frac{51}{34}$?

- A $\frac{17}{11}$
- B $\frac{3}{4}$
- C $\frac{102}{48}$
- D $\frac{9}{6}$

Question 5. Choose the correct answer.

Calculate: $\frac{1}{2} - \frac{2}{5} + \frac{5}{3} = \dots\dots\dots$

- A $\frac{49}{30}$
- B $\frac{52}{30}$
- C $\frac{53}{30}$
- D $\frac{51}{30}$

296	963	507	125 × 3
746 + 455	198	839	649
851	468	204 × 3	886
589	393 + 393	936	130 × 2 + 330
707 - 38	439 × 2	729	458 + 528

Cells are numbered in the order of:

Cell No. 1	Cell No. 2	Cell No. 3	Cell No. 4
Cell No. 5	Cell No. 6	Cell No. 7	Cell No. 8
Cell No. 9	Cell No. 10	Cell No. 11	Cell No. 12
Cell No. 13	Cell No. 14	Cell No. 15	Cell No. 16
Cell No. 17	Cell No. 18	Cell No. 19	Cell No. 20

Step 1 : Calculate the values and compare, we can see:

$$198 < 296 < 125 \times 3 = 375 < 468 < 507 < 589 < 130 \times 2 + 330 = 590 < 204 \times 3 = 612 < 649 < 707 - 38 = 669 < 729 < 393 + 393 = 786 < 839 < 851 < 439 \times 2 = 878 < 886 < 476 + 455 = 931 < 936 < 963 < 458 + 528 = 986.$$

Step 2: Basing on comparison, we can write the number of cells with ascending order as follows:

$$(6) - (11) - (4) - (10) - (3) - (13) - (16) - (11) - (8) - (17) \\ - (19) - (14) - (7) - (9) - (18) - (12) - (5) - (15) - (2) - (20)$$

Question 6. Choose the correct answer.

Which of the following sums is less than 1?

- A $\frac{1}{3} + \frac{4}{5}$ B $\frac{3}{4} + \frac{1}{2}$ C $\frac{2}{3} + \frac{1}{4}$ D $\frac{3}{5} + \frac{2}{3}$

Question 7. Choose the correct answer.

Convert $\frac{7}{5}$ to a fraction with a denominator of 100.

- A $\frac{7}{100}$ B $\frac{140}{100}$ C $\frac{700}{500}$ D $\frac{14}{100}$

Question 8. Fill in the blank.

37 minutes 48 seconds + 29 minutes 36 seconds = ... minutes 24 seconds.

Choose the correct answer.

- A 67 B 66 C 65 D 68

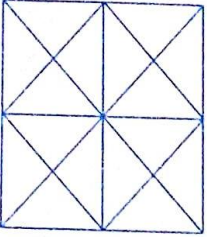
Question 9. Choose the correct answer.

Write $\frac{123123}{456456}$ in simplest form.

- A $\frac{123}{456}$ B $\frac{1}{2}$ C $\frac{41}{152}$ D $\frac{101}{1001}$

Question 10. Choose the correct answer.

How many triangles are there in the following figure?



- A 44 B 43 C 42 D Uncountable

EXAM 2 Kid Champion

Let's reach the intellectual peak by answering the questions below.



Question 1. Find x if $\frac{7}{12} + \frac{x}{3} = \frac{5}{4}$.

Answer: The value of x is

Question 2. The average of two numbers is 252. The greater number is 42 units more than the smaller number. Find two numbers.

Answer: The greater number is
The smaller number is

Question 3. Write $7\frac{3}{4}$ as an improper fraction.

Answer: The result is

Question 4. Compare: $\frac{23}{25}$ and $\frac{11}{12}$.

Answer: $\frac{23}{25}$ $\frac{11}{12}$.

Question 5. 6 pizzas cost \$12. How much does Jane have to pay for 200 pizzas?

Answer: Jane has to pay \$... for 200 pizzas.

Question 6. Fill in the blank: $2\frac{1}{7} + 3\frac{2}{7} = \dots$.

Answer: The correct number fill in the blank is

Question 7. Find x if $\frac{1}{4} \times \frac{1}{x} = \frac{1}{20}$.

Answer: The value of x is

Question 8. Calculate: $\frac{75}{100} + \frac{18}{21} + \frac{19}{32} + \frac{1}{4} + \frac{1}{21} + \frac{3}{21} + \frac{13}{32}$.

Answer: The result is

Question 9. It took six workers, three hours to do a work. How many workers are needed to do the work in two hours?

Answer: There are workers needed to do the work in two hours.

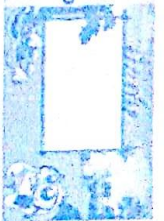
Question 10. If both numerator and denominator of a fraction are increased by 3 units then the new fraction will be equal to $\frac{6}{17}$. Find the original fraction

if the sum of its numerator and its denominator is 40.

Answer: This fraction is

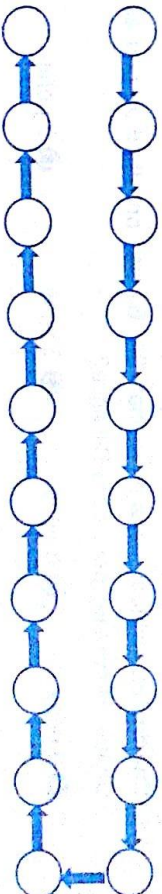
EXAM 3 Arrangement

Arrange numbers or calculations in order from least to greatest then fill their sequence numbers in below.



$\frac{13}{100}$	$\frac{3}{2}$	$\frac{8}{7}$	$\frac{1}{3}$
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
$\frac{2}{5}$	$\frac{21}{100}$	$\frac{1}{4}$	$\frac{11}{100}$
<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8
$\frac{7}{100}$	$\frac{1}{2}$	$\frac{7}{6}$	$\frac{5}{4}$
<input type="radio"/> 9	<input type="radio"/> 10	<input type="radio"/> 11	<input type="radio"/> 12
$\frac{3}{4}$	$\frac{1}{100}$	$\frac{23}{100}$	$\frac{6}{5}$
<input type="radio"/> 13	<input type="radio"/> 14	<input type="radio"/> 15	<input type="radio"/> 16
$\frac{17}{100}$	$\frac{19}{100}$	$\frac{3}{100}$	$\frac{9}{100}$
<input type="radio"/> 17	<input type="radio"/> 18	<input type="radio"/> 19	<input type="radio"/> 20

The correct order is:



TEST 2

EXAM 1 Golden Frog

Choose the correct answer in 4 available answers.



Question 1. Choose the correct answer.

$$\frac{3}{10} + \frac{1}{2} = \dots\dots$$

- A $\frac{7}{5}$ B $\frac{5}{4}$ C $\frac{6}{5}$ D $\frac{3}{10}$

Question 2. Choose the correct answer.

Which of the following expressions is equal to $\frac{8}{30}$?

- A $\frac{11}{30} - \frac{4}{20}$ B $\frac{2}{30} \times \frac{4}{30}$ C $\frac{8}{15} : \frac{1}{2}$ D $\frac{1}{15} + \frac{1}{5}$

Question 3. Choose the correct answer.

Find the value of x if $\frac{2}{3} \times x = \frac{3}{2}$.

- A $\frac{4}{3}$ B $\frac{2}{3}$ C $\frac{1}{9}$ D $\frac{9}{4}$

Question 4. Choose the correct answer.

Calculate: $4 : \frac{3}{7} + \frac{1}{2}$.

- A $\frac{49}{6}$ B $9\frac{5}{6}$ C $\frac{31}{14}$ D $2\frac{3}{14}$

Question 5. Choose the correct answer.

Charlie has eighteen pens more than Bill. Bill has one third as pen as Charlie. How many pens does Bill have?

- A 9 pens B 6 pens C 3 pens D 2 pens

Question 6. Choose the correct answer.

Write $\frac{42}{63}$ in lowest term.

- A $\frac{4}{6}$ B $\frac{4}{9}$ C $\frac{2}{3}$ D $\frac{6}{9}$

Question 7. Choose the correct answer.

Which of the following fractions is greater than $\frac{24}{36}$?

- A $\frac{9}{12}$ B $\frac{8}{18}$ C $\frac{7}{12}$ D $\frac{5}{9}$

Question 8. Choose the correct answer.

The sum of two numbers is the greatest – four digit number and their ratio is the smallest – two digit number. Find these numbers.

- A 900 and 99 B 909 and 9090
 C 989 and 10 D 999 and 989

Question 9. Choose the correct answer.

Alice's mother is now four times as old as she. Four years ago, her mother was thirty years more than her. How old is Alice now?

- A 12 B 6 C 10 D 8

Question 10. Choose the correct answer.

Find the 123rd term of the following sequence:

1 : 2 : 0 : 0 : 3 : 1 : 2 : 0 : 0 : 3 : 1 : 2 : 0 : 0 : 3 :

- A 1 B 2 C 0 D 3

EXAM 2 Kid Champion

Let's reach the intellectual peak by answering the questions below.



Question 1. Calculate: $\frac{3}{5} : 2 + \frac{1}{2}$. (Write your answer as a fraction in simplest form)

Answer: The result is

Question 2. There are 40 students in a class. $\frac{2}{5}$ of them are good at Math. How many students in the class are not good at Math?

Answer: There are students.

Question 3. Convert $\frac{3}{4}$ to a fraction with a denominator of 100.

Answer: $\frac{3}{4} = \frac{\dots}{100}$.

Question 4. Find x if x is a natural number and $\frac{8}{15} : x = \frac{4}{75}$.

Answer: The value of x is

Question 5. Write the following fractions in order from greatest to least

$\frac{3}{5} ; \frac{8}{7} ; \frac{1}{2} ; \frac{10}{9} ; \frac{4}{5}$.

Answer: The correct order is: ; ; ; ;

Question 6. Find the natural number x if $\frac{3}{8} < \frac{x}{4} < \frac{31}{56}$.

Answer: The value of x is

Question 7. Compare: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ and $\frac{7}{8}$.

Answer: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} \dots \frac{7}{8}$.

Question 8. Calculate: $\frac{2}{5} + \frac{6}{9} + 2\frac{3}{4} + \frac{3}{5} + \frac{1}{3} + \frac{1}{4}$.

Answer: The result is

Question 9. The sum of two numbers is 1200. If the ratio of these numbers is 3 : 7 then the smaller number is.....

Question 10. 7 hamburgers and 5 ice creams cost \$32. 10 hamburgers and 5 ice creams cost \$35. How much does a hamburger cost?

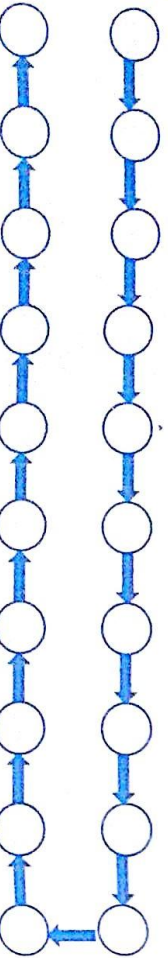
Answer: A hamburger cost \$.....

EXAM 3 Arrangement

Arrange numbers or calculations in order from least to greatest then fill their sequence numbers in below.

$\frac{7}{2}$	$\frac{17}{3}$	$\frac{49}{8}$	$\frac{18}{9}$	
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	
$\frac{59}{10}$	$\frac{17}{9}$	$\frac{35}{6}$	5	
<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	
$\frac{23}{4}$	$\frac{11}{2}$	$\frac{53}{9}$	$\frac{29}{5}$	
<input type="radio"/> 9	<input type="radio"/> 10	<input type="radio"/> 11	<input type="radio"/> 12	
$\frac{17}{10}$	$\frac{41}{7}$	$\frac{5}{2}$	$\frac{19}{9}$	
<input type="radio"/> 13	<input type="radio"/> 14	<input type="radio"/> 15	<input type="radio"/> 16	
6	$\frac{9}{2}$	$\frac{19}{8}$	$\frac{47}{8}$	
<input type="radio"/> 17	<input type="radio"/> 18	<input type="radio"/> 19	<input type="radio"/> 20	

The correct order is:



ROUND 2

TEST 1

EXAM 1 Matching

Choose pairs of numbers or calculations have the same value in the following table's cells then fill their sequence number in below.

$\frac{1}{3} + \frac{2}{5}$	$\frac{1}{5} + \frac{1}{7}$	$\frac{7}{3} \times \frac{1}{3}$	$\frac{4}{11}$
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
$\frac{1}{5} + \frac{2}{3} \times \frac{2}{5}$	$\frac{7}{12}$	$\frac{9}{21}$	$\frac{7}{9}$
<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8
$\frac{3}{4}$	$\frac{1}{2} : \frac{3}{5}$	$\frac{2}{7} \times \frac{6}{5}$	$\frac{11}{15}$
<input type="radio"/> 9	<input type="radio"/> 10	<input type="radio"/> 11	<input type="radio"/> 12
$\frac{1}{2} \frac{1}{11}$	$\frac{1}{3} : \frac{4}{7}$	$\frac{5}{6}$	$\frac{6}{11} + \frac{7}{11}$
<input type="radio"/> 13	<input type="radio"/> 14	<input type="radio"/> 15	<input type="radio"/> 16
$\frac{3}{11} + \frac{1}{11}$	$\frac{7}{15}$	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$	$\frac{3}{7}$
<input type="radio"/> 17	<input type="radio"/> 18	<input type="radio"/> 19	<input type="radio"/> 20

Answer: Pairs of numbers or calculations have the same value are:

- and ; and ; and ; and
 and ; and ; and ; and
 and ; and .

EXAM 2 Jump Over

You have to drive your car passing 10 obstacles to finish. In order to overcome each obstacle, you have to answer correctly one question in that obstacle. Are you ready?



Question 1. Find the least common denominator of $\frac{1}{15}$ and $\frac{5}{12}$.

Answer: The least common denominator of $\frac{1}{15}$ and $\frac{5}{12}$ is

Question 2. Write $\frac{27}{63}$ in lowest term.

Answer: The result is

Question 3. Convert 5km 5m to m.

Answer: 5km 5m =m.

Question 4. Write two next fractions in the sequence: $\frac{7}{9}, \frac{11}{12}, \frac{15}{15}, \frac{19}{18}, \dots$

Answer: Two next fractions in this sequence are ... and

Question 5. Find the area of the following rectangle in square centimeter if it's perimeter is 76cm.



Answer: The area of this rectangle iscm². 25cm

Question 6. The average of 63, 35 and X is equal to 45. Find X.

Answer: The value of X is

Question 7. Find a fraction if the sum of it's denominator and it's numerator is 27 and it equals $\frac{4}{5}$.

Answer: This fraction is

Question 8. Which sign (+; -; x; :) makes the sentence come true?

$$\frac{5}{2} \times \frac{9}{3} \dots \frac{9}{3} = \frac{7}{6}$$

Answer: The correct sign is

Question 9. Find the least 5 - digit number such that the sum of its digits is 15.

Answer: This number is

Question 10. Calculate: $1\frac{2}{3} \times 1\frac{2}{5} \times 1\frac{2}{7} \times \dots \times 1\frac{2}{99}$.

Answer: The result is

(Write your answer as a fraction in simplest form.)

EXAM 3 Grid Ins

Fill in the blanks with the correct answers to answer 10 questions below.



Question 1. Calculate: $\frac{9}{7} - \frac{5}{6}$.

Answer: The result is

Question 2. Compare: $\frac{2}{5} + \frac{1}{5}$ and $\frac{3}{2} \times \frac{1}{2}$.

Answer: $\frac{2}{5} + \frac{1}{5} \dots \frac{3}{2} \times \frac{1}{2}$.

Question 3. Find x if $\frac{2}{7} + x = \frac{5}{3}$.

(Write your answer as a fraction in simplest form.)

Answer: The value of x is