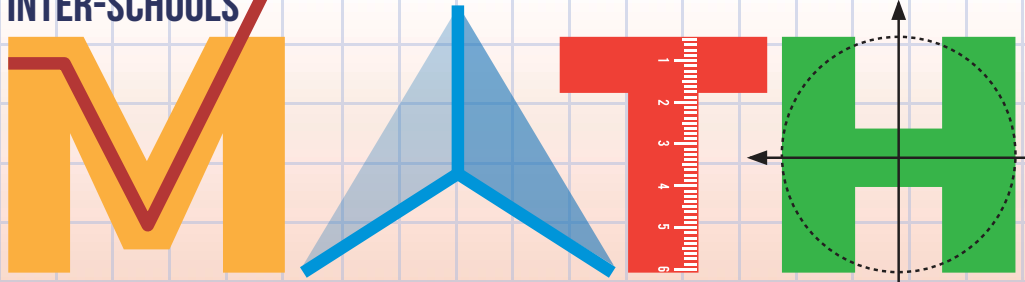




ໂຮງຮຽນນານາຊາດລາວ  
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ການແຂ່ງຂັນຄະນິດສາດ ແລະ ການແກ້ໄຈຄ ຄັ້ງທີ 16

INTER-SCHOOLS



**OLYMPIAD XVI**

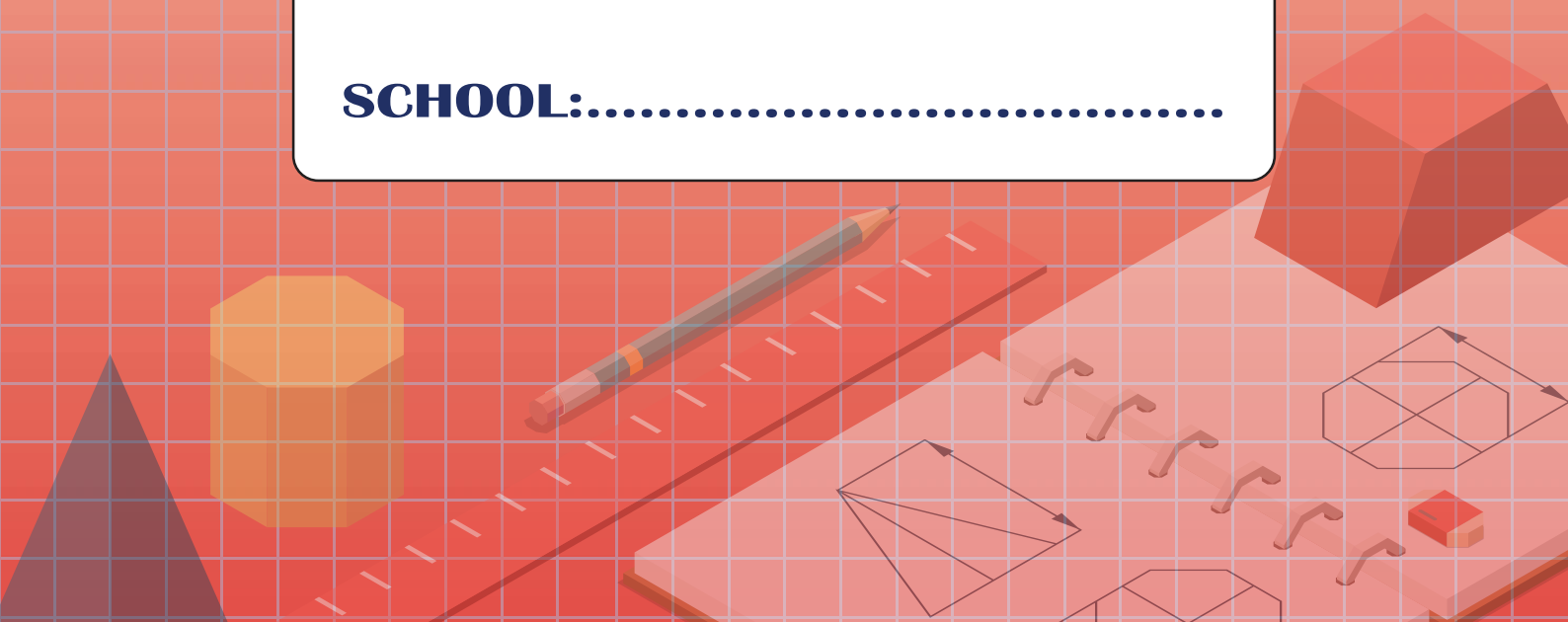
**CATEGORIE 3 GRADES 7-8**

**QUESTIONS BOOKLET**

**NAME:**.....

**ID:**.....

**SCHOOL:**.....



## **Instructions to participants**

1. There are 25 questions.
2. Attempt to answer all the questions.
3. No deduction will be given for wrong answers.
4. Answers should be written clearly on the ANSWER PAPER.
5. NO EXPLANATIONS shall be provided for questions. Participants not allowed to use calculators.

## **ຄໍາແນະນຳສໍາລັບຜູ້ສອບເສັງ**

1. ທັງໝົດມີ 25 ຄໍາຖາມ.
2. ພະຍາຍາມຕອບໃຫ້ຄົບທຸກຄໍາຖາມ.
3. ບໍ່ມີການລົບຄະແນນສໍາລັບຂໍ້ທີ່ຕອບຜິດ.
4. ຄໍາຕອບທີ່ຖືກ ຕ້ອງຂຽນລະອຽດໃສ່ເຈ້ຍຄໍາຕອບ.
5. ບໍ່ມີຄໍາອະທິບາຍໃຫ້. ບໍ່ອະນຸຍາດໃຫ້ໃຊ້ເຄື່ອງຄິດໄລ່ເລກ.

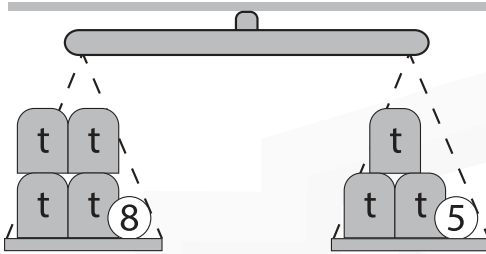
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### Category 3

#### 3 point Questions 1 - 9 / ຂໍ້ລະ 3 ຄະແນນ (ຄໍາຖາມຂໍ້ 1 - 9)

1. Find the value of  $t$  =?

ຈົ່ງຊອກຫາຄ່າຂອງ  $t$  = ?



A) 13

B) 3

C) - 2

D) - 3

2. Solve:  $(2022 - 2023)^{12} + (2022 + 2023) - 3333 = ?$

ຈົ່ງຄິດໄລ່:  $(2022 - 2023)^{12} + (2022 + 2023) - 3333 = ?$

A) 10

B) 727

C) 777

D) 713

3. Find GCD (Greatest Common Divisor) of 126, 162 and 180?

ຈົ່ງຊອກຫາຄ່າຂອງ GCD (ຕົວຫານທົ່ວໄປທີ່ໃຫຍ່ທີ່ສຸດ) ຂອງ 126, 162 ແລະ 180?

A) 9

B) 12

C) 18

D) 24

4. Tim goes jogging for 1 hour & 30 minutes. He starts at 4:50 pm.  
What time does he finish?

ທິມໄປແລ່ນອອກກຳລັງກາຍເປັນເວລາ 1 ຊົ່ວໂມງ 30 ນາທີ. ລາວເລີ່ມແລ່ນຕັ້ງແຕ່ ເວລາ 4:50 ໂມງແລງ.  
ຢາກຮູ້ວ່າລາວແລ່ນແລ້ວຕອນຈັກໂມງ?

- A) 6:20 pm      B) 7:10 am      C) 9:20 am      D) 10:10 pm

5. It is true that  $\frac{1111}{101} = 11$  What is the value of  $\frac{3333}{101} + \frac{6666}{303}$  ?

ຄ່າຂອງ  $\frac{1111}{101} = 11$  ແລ້ວຄ່າຂອງ  $\frac{3333}{101} + \frac{6666}{303}$  ແມ່ນເທົ່າໃດ?

- A) 5      B) 9      C) 45      D) 55

6. Find the next number: 0, - 3, - 3, - 6, - 9, \_\_

ຈົ່ງຊອກຫາຄ່າຂອງເລກຕໍ່ໄປ: 0, - 3, - 3, - 6, - 9, \_\_

- A) - 14      B) - 12      C) -15      D) 13

### Category 3

7. The masses of salt and fresh water in sea water in Protaras are in the ratio 7 : 200. How many kilograms of salt are there in 1000 kg of sea water?

ເກືອ ແລະ ນ້ຳຢູ່ໃນນ້ຳທະເລໂປທາຣັສ ທີ່ມີອັດຕາສ່ວນ 7 : 200.  
ຢາກຮູ້ວ່ານ້ຳທະເລ 1000 ກິໂລກຣາມ ຈະມີເກືອຢູ່ໃນນ້ຳຈັກກິໂລກຣາມ?

- A) 35                      B) 350                      C) 200                      D) 5

8. Find the largest possible value of the blank so that the number becomes divisible by 4.

ຈົ່ງຊອກຫາຄ່າທີ່ເປັນໄປໄດ້ທີ່ສຸດຢູ່ບ່ອນຫວ່າງເພື່ອໃຫ້ຕົວເລກສາມາດຫານໄດ້ ດ້ວຍ 4.

4326  44

- A) 2                      B) 6                      C) 8                      D) 9

9. The average number of children in five families cannot be

ຈຳນວນສະເລ່ຍ ເດັກນ້ອຍໃນຫ້າຄອບຄົວບໍ່ສາມາດແມ່ນ

- A) 0.2                      B) 1.2                      C) 2.5                      D) 2.4

4 point Questions 10 - 17 / ຂໍ້ລະ 4ຄະແນນ (ຄໍາຖາມຂໍ້ 10 - 17)

10. The positive integers  $x$ ,  $y$  and  $z$  satisfy  $x \times y = 14$ ,  $y \times z = 10$  and  $z \times x = 35$ . What is the value of  $x + y + z$  ?

ຈຳນວນເຕັມບວກ  $x$ ,  $y$  ແລະ  $z$  ສອດຄ່ອງກັບ  $x \times y = 14$ ,  $y \times z = 10$  ແລະ  $z \times x = 35$ . ຄ່າຂອງ  $x + y + z$  ແມ່ນຫຍັງ?

- A) 10                      B) 12                      C) 14                      D) 16

11. In the diagram,  $\alpha = 55^\circ$ ,  $\beta = 40^\circ$  and  $\gamma = 35^\circ$ . What is the value of  $\delta$ ?

ຢູ່ໃນຮູບ,  $\alpha = 55^\circ$ ,  $\beta = 40^\circ$  ແລະ  $\gamma = 35^\circ$ . ຄ່າຂອງ  $\delta$  ແມ່ນຫຍັງ?



- A)  $100^\circ$                       B)  $110^\circ$                       C)  $120^\circ$                       D)  $130^\circ$

12. A train travels 60 miles in 90 minutes. Calculate the train's average speed.

ລົດໄຟສາມາດແລ່ນໄດ້ 60 ຫຼັກພາຍໃນ 90 ນາທີ. ຈົ່ງຄິດໄລ່ຄວາມໄວສະເລ່ຍຂອງລົດໄຟ.



- A) 40mph                      B) 60mph                      C) 20mph                      D) 50mph

### Category 3

**13.** In which of the following expressions can we replace each occurrence of the number 8 by the same positive number (other than 8) and obtain the same result?

ຕົວຢ່າງຕໍ່ໄປນີ້, ຂໍໃດທີ່ສາມາດທົດແທນເລກ 8 ແຕ່ລະຄັ້ງດ້ວຍເລກບວກດຽວກັນ (ນອກຈາກເລກ 8) ແລະ ໄດ້ຮັບຜົນດຽວກັນ.

A)  $(8+8)\div 8+8$

B)  $8\times(8+8)\div 8$

C)  $(8+8-8)\div 8$

D)  $(8+8-8)\times 8$

**14.** Four chocolate bars cost \$6 more than one chocolate bar. What is the cost of one chocolate bar?

ນີ້ນຳໃຊ້ດິນຈີ່ທີ່ຄືກັນ 36 ກ້ອນເພື່ອສ້າງຮົ່ວອ້ອມຮອບພື້ນທີ່ສີ່ຫຼ່ຽມ. ສ່ວນໜຶ່ງຂອງຮົ່ວລາວສະແດງໃຫ້ເຫັນດັ່ງຮູບລຸ່ມນີ້.

A) \$1

B) \$2

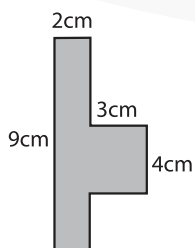
C) \$3

D) \$4

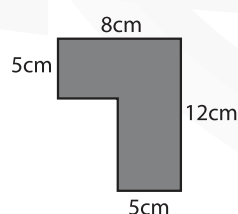
**15.** Find sum of the area of figure A and figure B.

ຈົ່ງຊອກຫາຜົນບວກຂອງພື້ນທີ່ຂອງຮູບ A ແລະ ຮູບ B.

A.



B.



A)  $105 \text{ cm}^2$

B)  $110 \text{ cm}^2$

C)  $75 \text{ cm}^2$

D)  $45 \text{ cm}^2$

16.

$$\sqrt{19 + \sqrt{27 + \sqrt{69 + \sqrt{144}}}} = ?$$

- A) 4                      B) 25                      C) 5                      D) 3

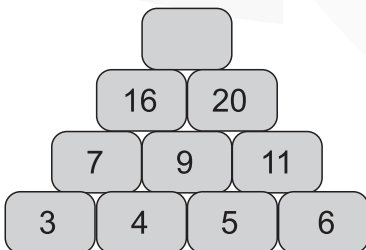
17. Solve / ແກ້ :  $2023 - 1234 + 2022 - 2345 + 2024 = ?$

- A) 2490                      B) 2940                      C) 1490                      D) 2023

**5 point Questions 18 - 25 / ຂໍ້ລະ 5ຄະແນນ (ຄໍາຖາມຂໍ້ 18 - 25)**

18. Find the value of missing rectangle.

ຈົ່ງຊອກຫາຄ່າຂອງສີ່ແຈສາກທີ່ຂາດຫາຍໄປ.



- A) 4                      B) 26                      C) 36                      D) 43

### Category 3

19. Find the value of / ຈົ່ງຊອກຄ່າຂອງ :  $3x + 2y - 4z$

$$\left. \begin{array}{l} x + 2y + 3z = 7 \\ x + 3y = 5 \\ 3y + 4z = 7 \end{array} \right\}$$

- A) 4                      B) 6                      C) 2                      D) 3

20. Simplify / ແກ້  $\frac{3y}{4} \div \frac{3y^3}{4}$

- A) 2                      B)  $\frac{1}{2y^2}$                       C)  $\frac{3y^2}{2}$                       D)  $y^{-2}$

21. Find simplest form.

ຈົ່ງຊອກຫາຮູບແບບທີ່ງ່າຍດາຍທີ່ສຸດ.

$$\frac{0,001 + 0,011}{0,0111} + \frac{0,03(44,4 - 23,1)}{0,3 + 0,033} = ?$$

- A) 0                      B) 1                      C) 2                      D) 3

22. If  $x^5 = 32$  find  $x$ .

ຖ້າ  $x^5 = 32$  ຈົ່ງຊອກ  $x$ .

- A) 5                      B) 2                      C) 4                      D) 3

23. a, b, c, d are positive integers, find  $x = ?$

a, b, c, d ເປັນຈຳນວນບວກ, ຈົ່ງຊອກຫາຄ່າ  $x = ?$

4	20	5
12		10
3	6	2

6	54	9
48		63
8	56	7

a	72	b
45		$x$
c	60	d

- A) 90                      B) 96                      C) 102                      D) 113

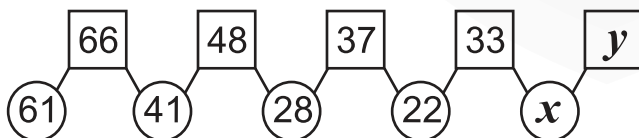
24. Find the value of / ຈົ່ງຊອກຫາຄ່າຂອງ  $2a - b + 4c = ?$

$$\frac{a + b}{c + 3} = \frac{b + 2c}{6a - 1} = 1,$$

$$a + b + c = 19 \Rightarrow$$

- A) 5                      B) 11                      C) 22                      D) 33

25. Find the value of / ຈົ່ງຊອກຫາຄ່າຂອງ  $x + y = ?$



- A) 40                      B) 51                      C) 59                      D) 53



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- > 1 ເທິມມີ 4 ເດືອນ (48 ມື້)
- > ຮຽນ 3 ບົດ ຕໍ່ມື້
- > ມື້ຮຽນແມ່ນ ວັນເສົາ ແລະ ວັນອາທິດ



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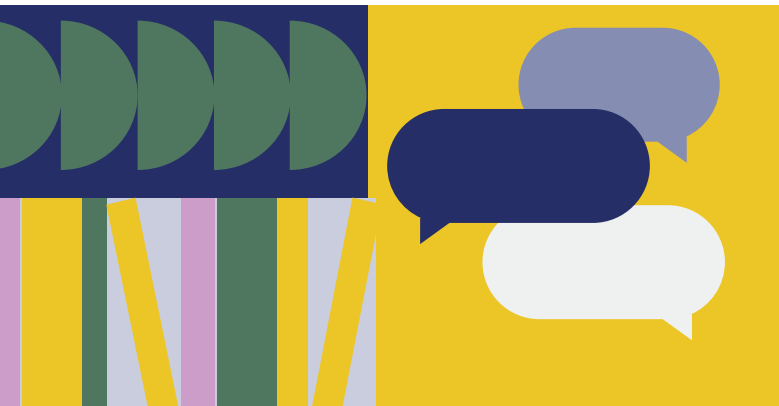
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# ການສຶກສາທີ່ດີ

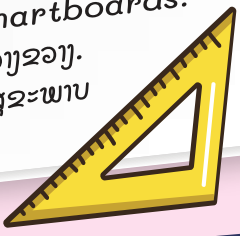
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ເລີ່ມຮັບຕັ້ງແຕ່ອາຍຸ 1ປີ6ເດືອນ - 5 ປີ



## ເປັນຫຍັງຕ້ອງເລືອກ ISL ?

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