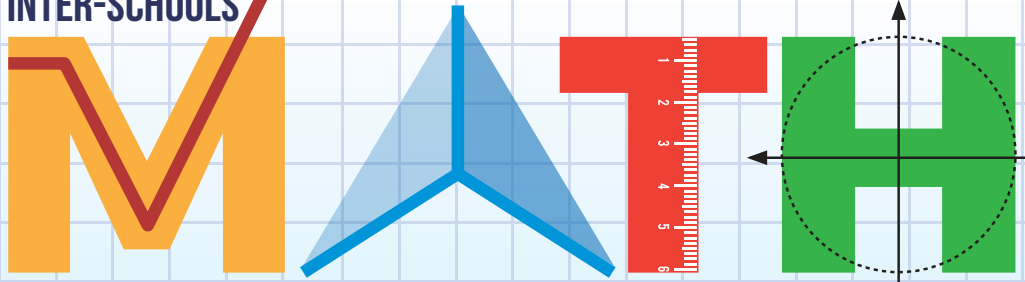




ໂຮງຮຽນນານາຊາດລາວ  
INTERNATIONAL  
SCHOOL OF LAOS

ການແຂ່ງຂັນຄະນິດສາດ ແລະ ການແກ້ໄຂຄ ຄັ້ງທີ 16

INTER-SCHOOLS



**OLYMPIAD XVI**

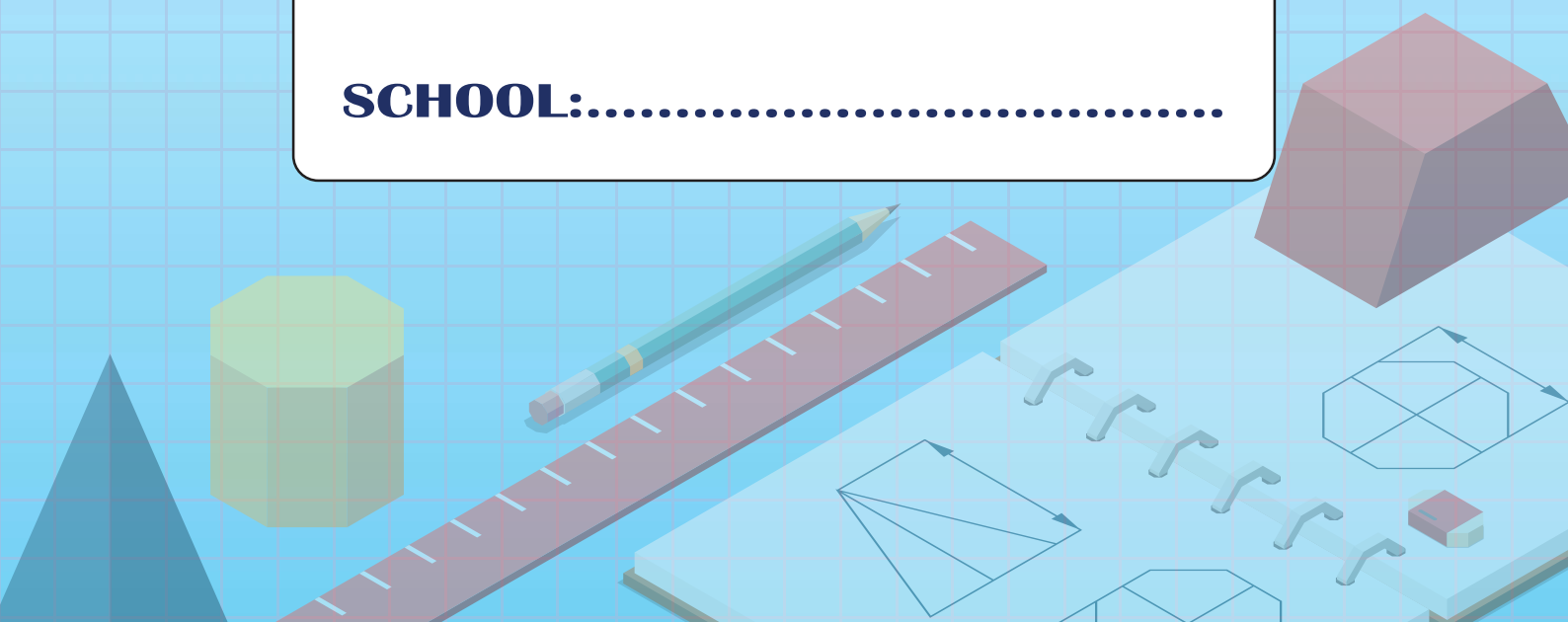
**CATEGORIE 2 GRADES 5-6**

**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.

Imagine • Succeed • Lead

## Category 2

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

- 1.** Basil wants to paint the word VIENTIANE. He paints one letter each day. He starts on Wednesday. On what day will he paint the last letter?

ເບຊີລຢາກທາສີຄໍາວ່າ VIENTIANE. ໃນແຕ່ລະມື້ລາວຈະທາໜຶ່ງຕົວອັກສອນ. ລາວເລີ່ມຕົ້ນທາຈາກວັນພຸດ. ຢາກຮູ້ວ່າຕົວອັກສອນສຸດທ້າຍທີ່ລາວຈະທາແມ່ນຖືກມື້ໃດ?

- (A) Monday      (B) Tuesday      (C) Wednesday      (D) Thursday      (E) Friday

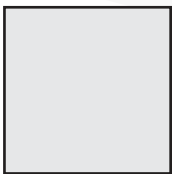
- 2.** A motorcyclist rode a distance of 28 km in 30 minutes at a constant speed. At what speed did he drive, in km per hour?

ຄົນຂັບລົດຈັກໄດ້ຂັບລົດດ້ວຍຄວາມໄວຄົງທີ່ເປັນໄລຍະທາງ 28 ກິໂລແມັດ ເຊິ່ງໃຊ້ເວລາ 30 ນາທີ. ຢາກຮູ້ວ່າລາວຂັບລົດໄດ້ເທົ່າໃດກິໂລແມັດຕໍ່ໜຶ່ງຊົ່ວໂມງ?

- (A) 28      (B) 36      (C) 56      (D) 58      (E) 62

- 3.** A square of paper is cut into two pieces using a single straight cut.

ເຈ້ຍຮູບສີ່ຫຼ່ຽມຈະຕຸລັດຈະຖືກຕັດອອກເປັນສອງສ່ວນເທົ່າກັນເຊິ່ງໃຊ້ການຕັດຊື່ພຽງເທື່ອດຽວ.



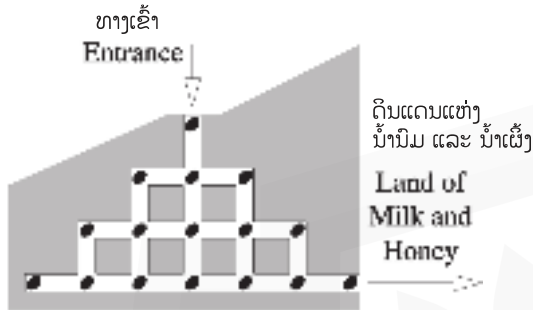
Which of the following cannot be the shape of either piece?

ຂໍ້ໃດຕໍ່ໄປນີ້ຖ້າຕັດແລ້ວ ບໍ່ສາມາດໄດ້ ສອງສ່ວນເທົ່າກັນ?

- (A) a square      (B) a rectangle      (C) a right-angled triangle
- (D) a pentagon      (E) an isosceles triangle

4. Hamster Fridolin sets out for the Land of Milk and Honey. His way to the legendary Land passes through a system of tunnels. There are 16 pumpkin seeds spread through the tunnels, as shown in the picture.

ແຮມສເຕີຟຣິໂດລິນອອກເດີນທາງສູ່ດິນແດນແຫ່ງນ້ຳນົມ ແລະ ນ້ຳເຜິ້ງ. ເສັ້ນທາງທີ່ລາວຈະໄປສູ່ດິນແດນທີ່ມີຊື່ສຽງນີ້ ແມ່ນຕ້ອງຜ່ານລະບົບອຸໂມງເຊິ່ງມີເມັດໝາກອຶຢູ່ 16 ເມັດແຜ່ລາມຜ່ານອຸໂມງ, ເຊິ່ງສະແດງໃຫ້ເຫັນດັ່ງຮູບຂ້າງລຸ່ມນີ້.



What is the highest number of pumpkin seeds Fridolin can collect if he is not allowed to visit any junction more than once?

ຟຣິໂດລິນສາມາດເກັບເມັດໝາກອຶໄດ້ຫຼາຍສຸດເທົ່າໃດ ຖ້າຫາກວ່າລາວບໍ່ໄດ້ຮັບອະນຸຍາດໃຫ້ໄປທາງແຍກໃດໜຶ່ງຫຼາຍກວ່າໜຶ່ງຄັ້ງ?

- (A) 12                      (B) 13                      (C) 14                      (D) 15                      (E) 16

5. What is the value of N?  $\frac{1}{5} = \frac{1}{6} + \frac{1}{N}$   
ຈົ່ງໃຫ້ຄ່າຂອງ N?

- (A) 15                      (B) 30                      (C) 45                      (D) 60                      (E) 65

6. What is the value of the following?  
ຈົ່ງຄິດໄລ່ເລກຂ້າງລຸ່ມນີ້?

$$268 + 1375 + 6179 - 168 - 1275 - 6079$$

- (A) 15                      (B) 300                      (C) 450                      (D) 100                      (E) 0

## Category 2

7. We pour 1000 litres of water into the top of the pipework shown in the picture.

ພວກເຮົາຖອກນໍ້າ 1000 ລິດໃສ່ທາງເທິງຂອງທໍ່, ດັ່ງໃນຮູບລຸ່ມນີ້.



Every time a pipe forks, the water splits into two equal parts. How many litres of water will reach container Y?

ທຸກໆຄັ້ງທີ່ທໍ່ແຍກ, ນໍ້າຈະແຍກອອກເປັນສອງສ່ວນເທົ່າໆກັນ. ຢາກຮູ້ວ່ານໍ້າຈັກລິດຈະຮອດຖັງ Y ?

- (A) 500                      (B) 660                      (C) 666.67                      (D) 750                      (E) 800

8. What is the value of  $17 \times 13 + 61 \times 13 + 22 \times 13 = ?$

$17 \times 13 + 61 \times 13 + 22 \times 13 = ?$  ມີຄ່າເທົ່າໃດ?

- (A) 1000                      (B) 1100                      (C) 1200                      (D) 1300                      (E) 800

9. What number between 121 and 149 is exactly divisible by both 3 and 5.

ຕົວເລກໃດ ລະຫວ່າງ 121 ແລະ 149 ທີ່ສາມາດຫານດ້ວຍ 3 ແລະ 5 ໄດ້.

- (A) 120                      (B) 125                      (C) 130                      (D) 135                      (E) 148

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

- 10.** When Liza the cat just lazes around, she drinks 60 ml of milk per day. But each day that she catches mice, she drinks a third more milk. In the last two weeks she has been catching mice every other day. How much milk did she drink in the last two weeks?

ເມື່ອລິດຊ່າແມວຂີ້ຄ້ານ, ມັກຈະກິນນົມ 60 ມິລິລິດຕໍ່ມື້. ແຕ່ມື້ທີ່ມັນຈັບໝູ, ມັນຈະກິນນົມເພີ່ມຂຶ້ນອີກໜຶ່ງໃນສາມສ່ວນ. ໃນສອງອາທິດທີ່ຜ່ານມາມັນໄດ້ຈັບໝູມື້ເວັ້ນມື້. ໃນສອງອາທິດທີ່ຜ່ານມາມັນໄດ້ກິນນົມເທົ່າໃດມິລິລິດ?

- (A) 840 ml      (B) 980 ml      (C) 1050 ml      (D) 1120 ml      (E) 1960 ml

- 11.**  $(12 \div 3) \times 5 + 19 - (12 - 8) \times 4 = ?$

- (A) 23      (B) 14      (C) 18      (D) 25      (E) 26

- 12.** All 4-digit integers with the same digits as the number 2011 are listed in increasing order (so each number in the list has two 1s, one 0 and one 2). What is the difference between the two numbers appearing on either side of 2011 in this list?

ຕົວເລກ 4 ຫຼັກທັງໝົດທີ່ມີຫຼັກດຽວກັນກັບຕົວເລກ 2011 ຈະສະແດງຕາມລຳດັບທີ່ເພີ່ມຂຶ້ນ (ດັ່ງນັ້ນຕົວເລກແຕ່ລະຕົວໃນລາຍການຈະມີເລກ 1 ສອງຕົວ ເລກ 0 ໜຶ່ງຕົວ ແລະ ເລກ 2 ໜຶ່ງຕົວ) ຄວາມແຕກຕ່າງລະຫວ່າງຕົວເລກສອງຕົວທີ່ປາກົດຢູ່ດ້ານຂ້າງ ແລະ ດ້ານໃດດ້ານໜຶ່ງຂອງຕົວເລກ 2011 ໃນລາຍການນີ້ຄືຫຍັງ?

- (A) 890      (B) 891      (C) 900      (D) 909      (E) 990

## Category 2

13. Find sum of:  $5 + 10 + 15 + 20 + \dots + 105 = ?$

ຈົ່ງຊອກຫາຜົນລວມຂອງ:  $5 + 10 + 15 + 20 + \dots + 105 = ?$

(A) 1150

(B) 1155

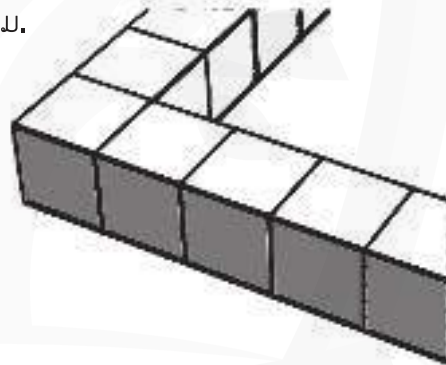
(C) 1551

(D) 1552

(E) 2025

14. Nina used 36 identical cubes to build a fence of cubes around a square region. Part of her fence is shown in the picture.

ນິນາໃຊ້ດິນຈີ່ທີ່ຄືກັນ 36 ກ້ອນເພື່ອສ້າງຮົ່ວອ້ອມຮອບພື້ນທີ່ສີ່ຫຼ່ຽມ. ສ່ວນໜຶ່ງຂອງຮົ່ວລາວສະແດງໃຫ້ເຫັນດັ່ງຮູບລຸ່ມນີ້.



How many more cubes will Nina need in order to fill the region inside her fence?

ນິນາຈະຕ້ອງໃຊ້ດິນຈີ່ເພີ່ມອີກຈັກກ້ອນເພື່ອຕື່ມພື້ນທີ່ດ້ານໃນຮົ່ວຂອງລາວ?

(A) 36

(B) 49

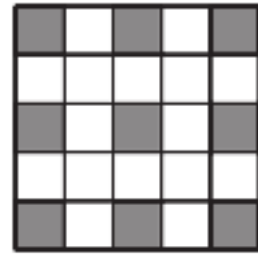
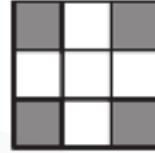
(C) 64

(D) 81

(E) 100

- 15.** Some square floors have been covered with white and grey tiles. Floors using 4 and 9 grey tiles are shown in the picture.

ພື້ນສີ່ຫຼ່ຽມບາງສ່ວນຖືກປຸງດ້ວຍກະເບື້ອງສີຂາວ ແລະ ສີເທົາ. ຮູບລຸ່ມນີ້ສະແດງໃຫ້ເຫັນພື້ນທີ່ເຊິ່ງໃຊ້ກະເບື້ອງສີເທົາ 4 ແລະ 9 ຕາມລຳດັບ.



Each floor has a grey tile in every corner and all the tiles around a grey tile are white.

How many white tiles are needed altogether for a floor using 25 grey tiles?

ແຕ່ລະຊັ້ນມີກະເບື້ອງສີເທົາຢູ່ທຸກແຈ ແລະ ກະເບື້ອງທັງໝົດທີ່ຢູ່ອ້ອມກະເບື້ອງສີເທົາຈະເປັນສີຂາວ. ຢາກຮູ້ວ່າຕ້ອງໃຊ້ກະເບື້ອງສີຂາວຈຳນວນເທົ່າໃດສຳລັບປຸງພື້ນທີ່ໃຊ້ກະເບື້ອງສີເທົາ 25 ອັນ?

- (A) 25                      (B) 39                      (C) 45                      (D) 56                      (E) 72

- 16.** Paul wanted to multiply an integer by 301, but he forgot the zero and multiplied by 31 instead. The result he got was 372. (He did manage to multiply by 31 correctly!) What result was he supposed to get?

ພອນຕ້ອງການຄູນຈຳນວນເຕັມດ້ວຍ 301, ແຕ່ລາວລືມສູນ ແລະ ຄູນດ້ວຍ 31 ແທນ. ຜົນທີ່ລາວໄດ້ຮັບແມ່ນ 372. (ລາວສາມາດຄູນດ້ວຍ 31 ໄດ້ຖືກຕ້ອງ) ຜົນລັບທີ່ລາວຄວນຈະໄດ້ແມ່ນເທົ່າໃດ?

- (A) 3010                      (B) 3612                      (C) 3702                      (D) 3720                      (E) 30 720

- 17.** In three games FC Barcelona scored three goals and let one goal in. In these three games, the club won one game, drew one game and lost one game. What was the score in the game FC Barcelona won?

ໃນສາມເກມເອັບຊີບາເຊໂລນາຍິງໄດ້ 3 ປະຕູ ແລະ ເສຍ 1 ປະຕູ. ໃນສາມເກມນີ້, ສະໂມສອນຊະນະ 1 ເກມ, ສະເໝີ 1 ເກມ ແລະ ເສຍ 1 ເກມ. ຢາກຮູ້ວ່າເອັບຊີບາເຊໂລນາຊະນະຈັກຄະແນນ?

- (A) 2-0                      (B) 3-0                      (C) 1-0                      (D) 4-1                      (E) 0-1

## Category 2

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

18.  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} = ?$

- (A)  $\frac{60}{64}$       (B)  $\frac{62}{64}$       (C)  $\frac{61}{64}$       (D)  $\frac{64}{64}$       (E)  $\frac{63}{64}$

19. A, B, C are all prime numbers. A, B, C ຄືຈຳນວນສະເພາະ

Given  $A + B = 25$

$B + C = 36$

$C + D = 42$

Find the value of D. ຈົ່ງຊອກຫາຄ່າຂອງ D.

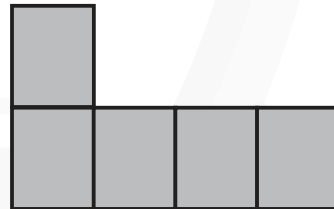
- (A) 28      (B) 27      (C) 26      (D) 29      (E) 30

20. Using only pieces like the one in the picture, Daniel wants to make a complete square without gaps or overlaps.

ດານຽວຕ້ອງການສ້າງຮູບສີ່ຫຼ່ຽມຈະຕຸລັດໂດຍບໍ່ມີຊ່ອງຫວ່າງ ຫຼື ທັບຊ້ອນກັນໂດຍໃຊ້ສະເພາະຊິ້ນສ່ວນດຽວ ເຊັ່ນຮູບພາບຂ້າງລຸ່ມ.

What is the smallest number of pieces he can use?

ລາວສາມາດໃຊ້ຊິ້ນສ່ວນນ້ອຍທີ່ສຸດໄດ້ເທົ່າໃດ?



- (A) 8      (B) 10      (C) 12      (D) 16      (E) 20

21. There are 10 pupils in a dance class. Their teacher has 80 jelly beans.

After she gives the same number of jelly beans to each of the girls in the class, there are 3 jelly beans left over. How many boys are there in the class?

ມີນັກຮຽນ 10 ຄົນຢູ່ໃນວິຊາເຕັ້ນລຳ. ຄູສອນຂອງພວກເຂົາມີຂະໜົມເຈລລີ້ບິ້ນ 80 ເມັດ. ຫລັງຈາກທີ່ຄູແຈກເຈລລີ້ບິ້ນຈຳນວນເທົ່າກັນໃຫ້ນັກຮຽນຍິງແຕ່ລະຄົນແລ້ວ ຍັງເຫຼືອເຈລລີ້ບິ້ນຢູ່ 3 ເມັດ. ຢາກຖາມວ່ານັກຮຽນຊາຍມີຈັກຄົນ?

- (A) 12      (B) 10      (C) 18      (D) 16

22.  $2000 - 1997 + 1994 - 1991 + \dots + 14 - 11 + 8 - 5 + 4 = ?$

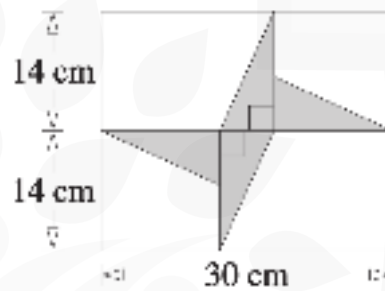
- (A) 1001                      (B) 1002                      (C) 1003                      (D) 1004                      (E) 999

23. The picture shows four identical right-angled triangles inside a rectangle.

ຮູບພາບຂ້າງລຸ່ມສະແດງໃຫ້ເຫັນສີ່ຮູບພາບຂອງສາມແຈສາກຢູ່ໃນຮູບສີ່ແຈສາກ.

What is the total area of all four triangles?

ພື້ນທີ່ທັງໝົດຂອງ 4 ຮູບສາມແຈສາກມີເທົ່າໃດ?



- (A)  $46 \text{ cm}^2$                       (B)  $52 \text{ cm}^2$                       (C)  $54 \text{ cm}^2$                       (D)  $56 \text{ cm}^2$                       (E)  $64 \text{ cm}^2$

24.  $[8 - (-4) + (-8)]^2 \times 4 = ?$

- (A) 10                      (B) 28                      (C) 64                      (D) 34                      (E) 48

25.  $3(x - 5) = 12$        $x = ?$

- (A) 9                      (B) 11                      (C) 12                      (D) 13                      (E) 27



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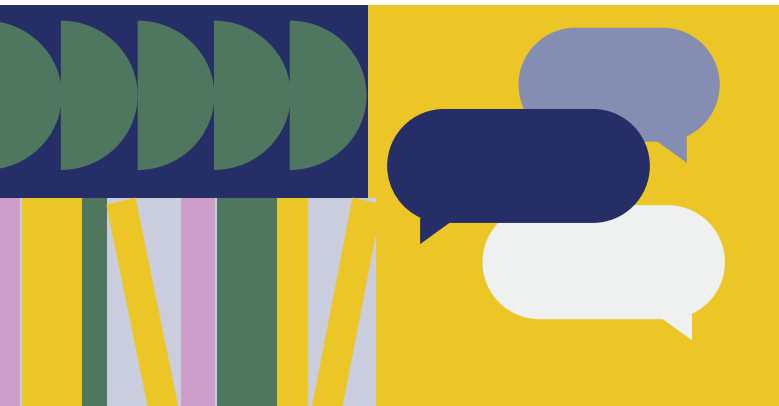
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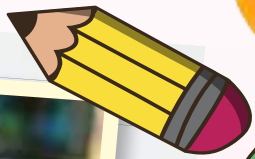


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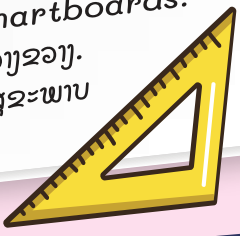
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