

YOUNG LIVES SECONDARY SCHOOL SURVEY

Maths | Wave 1

You should have been given 2 documents: this **Test Booklet** and a separate **Answer Sheet**. Before you begin, read these instructions carefully.

Carefully read the questions in this **Test Booklet**. For each question, there are four options – A, B, C and D. Only one of these options is correct. Identify the option which you think best answers each question.

On the **Answer Sheet** given to you, find the corresponding question number and draw a cross ('X') on the option you want to select. Only select one option for each question.

Example

A	B	X	D
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Please do not write on the Test Booklet. Use a separate piece of paper for any working out.

If you want to change your answer, blacken the entire square for your original answer and then write a cross ('X') on the new answer you want to select.

Example

X	B	C	D
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Each question carries one mark. No marks will be deducted for wrong answers.

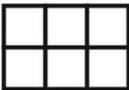
5 $-4 - (-5) = \underline{\hspace{2cm}}$

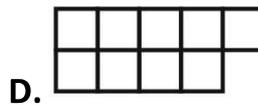
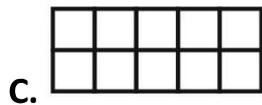
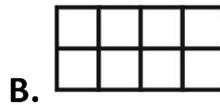
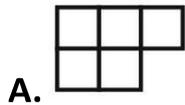
- A. -1
- B. 1
- C. -9
- D. 9

6 Which of these numbers are equal?

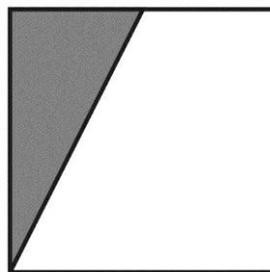
1^{119} 119^1 119^0 1^1

- A. Only 1^{119} and 1^1
- B. Only 1^{119} and 119^1
- C. Only 1^{119} , 119^0 and 1^1
- D. None of them are equal

7 If  represents 75%, which of the following represents 125%?



8 What fraction of the shape below is shaded?

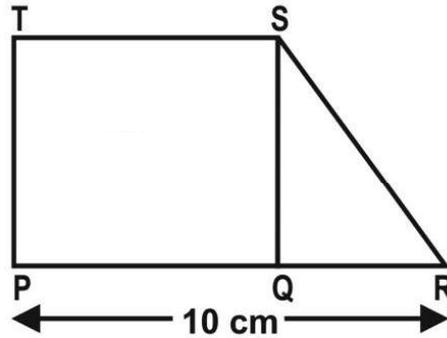


- A. 1
- B. $\frac{1}{2}$
- C. More than $\frac{1}{2}$
- D. Less than $\frac{1}{2}$

9 If the ratio of Hoa's age to Thanh's age is 2:3, which of the following is true about their actual ages?

- A.** Thanh's age is $1\frac{1}{2}$ times Hoa's age **B.** Hoa is a year younger than Thanh
C. Thanh is 3 times as old as Hoa **D.** Hoa's age is half of Thanh's age

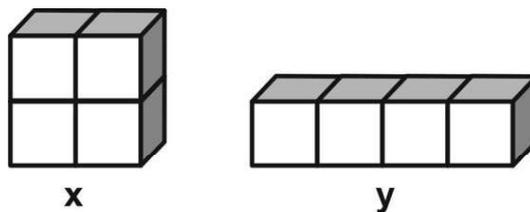
10 A trapezium is divided into a square and a triangle as shown below.



Which of the following lengths, if known, would NOT be sufficient to find out the area of trapezium?

- A.** RS **B.** PT
C. PQ **D.** QR

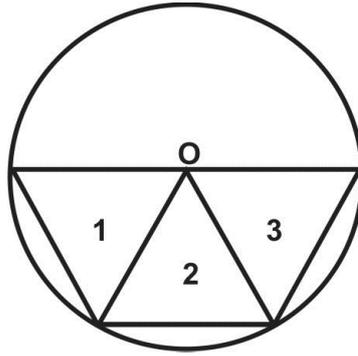
11 Cuboid x and Cuboid y below are both made of 4 identical unit cubes each.



What can be said about the volume of x and y?

- A.** Volume of x is greater than volume of y **B.** Volume of x is less than volume of y
C. Volume of x is same as volume of y **D.** Volume of x and volume of y can't be determined

- 15** Three equilateral triangles are inscribed in a circle with center O as shown below.



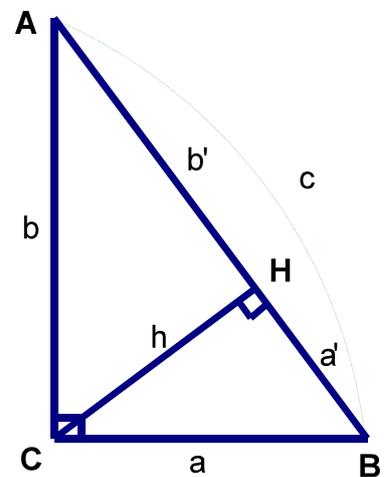
Which of the three triangles are congruent?

- A.** Triangles 1 and 2 only **B.** Triangles 2 and 3 only
C. Triangles 1 and 3 only **D.** All the three triangles

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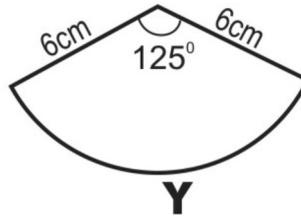
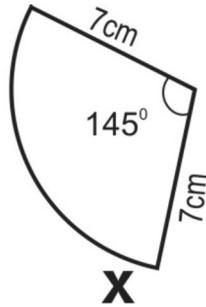
- 17** According to the following figure, which answer is correct?

- A.** $h^2 = a'b'$ **B.** $b^2 = ca'$
C. $c^2 = a'b'$ **D.** $a^2 = cb'$



18

Of the pieces shown here, which two could form a semicircle when placed next to each other with their edges touching?



A. Z and W

B. W and Y

C. Y and Z

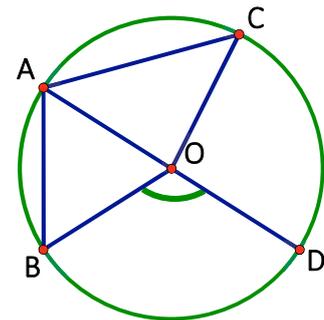
D. Z and X

19

If MNP is a right-angled triangle with $\widehat{M} = 90^\circ$, which answer is correct?

A. $MP = NP \cdot \sin P$ B. $MP = NP \cdot \sin N$ C. $MP = NP \cdot \cos N$ D. $MP = MN \cdot \cot N$ **20**

Given is the circle with O as the central point, diameter AD , $AC > AB$. Which angle equals to one half value of BOD ?

A. BAO B. OAC C. AOB D. COD **21**

Given are 3 random points M, N, P . Which following answer equals to \overrightarrow{MN} ?

A. $\overrightarrow{MP} + \overrightarrow{NP}$ B. $\overrightarrow{PN} - \overrightarrow{PM}$ C. $\overrightarrow{MP} - \overrightarrow{PN}$ D. $\overrightarrow{PM} - \overrightarrow{PN}$ **22**

If $a + 2b = 5$ and $c = 3$, calculate:

$a + 2(b + c) = \dots\dots\dots$

A. 14

B. 8

C. 12

D. 11

28

For any numbers x and y such that $x = 70 + y$, what can be said about x and y ?

A. $x = y$

B. $x < y$

C. $x > y$

D. None of the above can be said as the exact values of x or y are NOT known

29

$y + 10 < 10$. Which of these is DEFINITELY true?

A. y is any negative number.

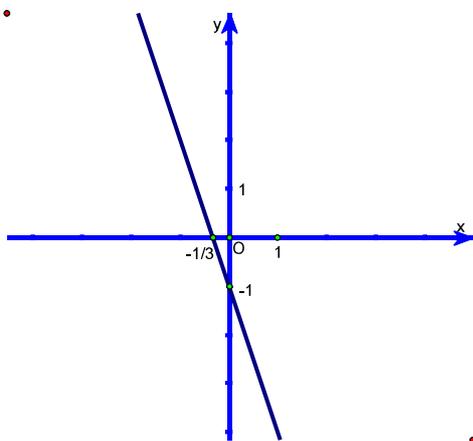
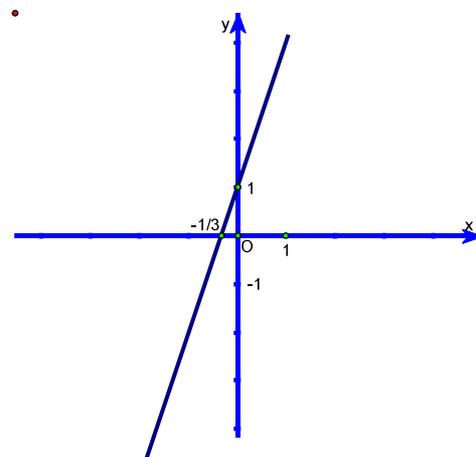
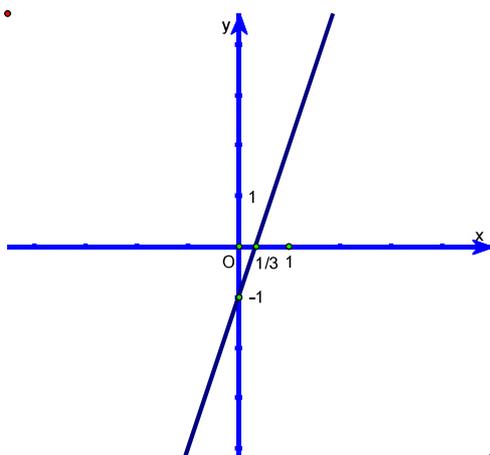
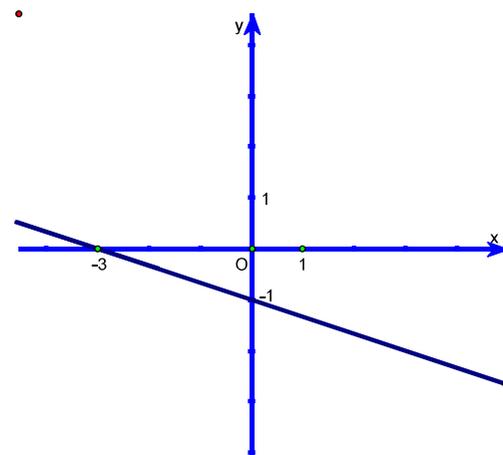
B. y is a positive number less than 10.

C. y has to be a negative number less than -10.

D. $y + 10$ cannot be less than 10 for any value of y .

30

Which graph of the line represents the equation $y = 3x - 1$?

**A.****B.****C.****D.**

31 The line representing $y = 3x + 2$ will intersect with the line representing which equation?

A. $y = 3x$

B. $y = -3x + 4$

C. $y = 3x + 5$

D. $y = 3x - 1$

32 The distance from A to B is 270 km. A car travels from A to B at a speed of 60 km per hour. On the way, it stops to take a break at C at 3 pm. C is 90 km distance away from B. What time did the car start from A?

A. 12pm

B. 12:30pm

C. 1pm

D. 1:30pm

33 Equation $x^2 - 2x + m - 1 = 0$ has roots when and only when:

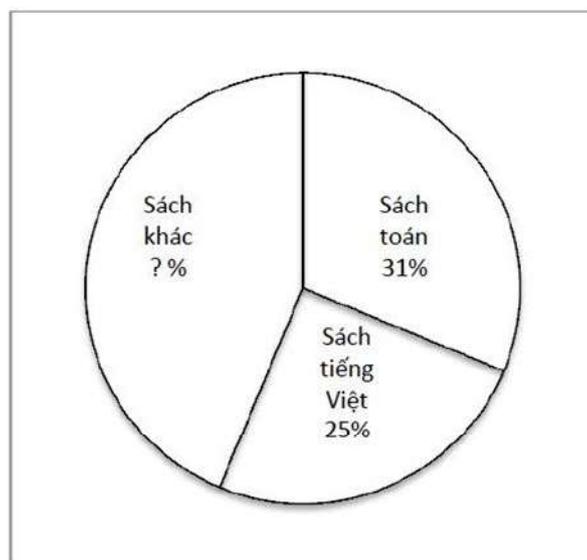
A. $m \geq 2$

B. $m > 2$

C. $m < 2$

D. $m \leq 2$

34 The pie chart shows the proportions books in the library. Of these books, 31% are Maths books, 25% are Vietnamese books. There are 132 books in the library that are neither math nor Vietnamese books. How many math books are there in the library?



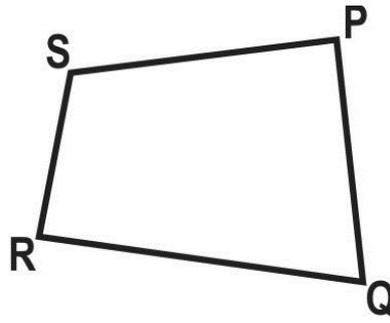
A. 31

B. 44

C. 93

D. 132

39 A field PQRS is in the shape of a quadrilateral.



If you walked from Q to P to S to R along the boundary of the field, you would have covered 140 metres. If you walked from P to S to R to Q along the boundary of the field, you would have covered 135 metres.

Based on this, which of the following can you conclude?

- A.** PQ is 5 m longer than QR **B.** QR is 5 m longer than SR
C. PS is 5 m longer than PQ **D.** The perimeter of the field is 275 m

40 80 girls and 100 boys appeared for the class 10 board exam from Pratibha School. 25% of the girls and 10% of the boys who appeared got A grades.

What percentage of the total number of students who appeared got A grades?

- A.** 16,70% **B.** 17,50%
C. 25% **D.** 35%
-