

GISAGARA DISTRICT

ACADEMIC YEAR 2025 - 2026

GS ST PHILIPPE NERI GISAGARA

CLASS S2.....

NAMES:

SECOND TERM

MATHEMATICS HOLIDAY PACKAGE FOR S2INSTRUCTIONS:**SECTION A ATTEMPT ALL QUESTIONS /30marks.**

1. Given that
- $x = 3, y = 4, w = 5$
- Evaluate the following:

$$\frac{3y-5w}{w+x}$$

Circle the correct answer /3

A. $\frac{13}{8}$

B. $-\frac{13}{8}$

C. $\frac{8}{13}$

D. $-\frac{8}{13}$

2. Solve for x in the equation
- $\frac{81^{2x} \times 27^x}{9^x} = 729$
- . Circle the correct answer /3

A: $\frac{3}{2}$

B: $\frac{2}{3}$

C: $\frac{3}{8}$

D: $\frac{8}{3}$

3. Given that
- $4^x = 64$
- , find
- x^x
- . Circle the correct answer /3

A: 3

B: $\frac{1}{5}$

C: 27

D: 25

4. A farmer produces 9 500 tonnes of coffee in the first six months of the year. Because of drought in the following six months, the production reduced by 36 %. How many tonnes of coffee were produced in the year?

Circle the correct answer /3

A: 15 580 T

B: 6 080 Tonnes

C: 22 420 Tonnes

D: 12 920 Tonnes

5. The following are Pythagorean triples except Circle the correct answer /3

A: (3,4,5)

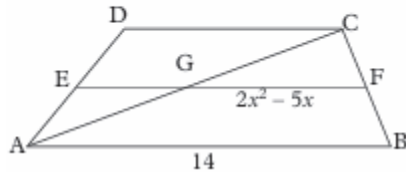
B: (9,12,15)}

C: (25,312,313)

D: (6,8,10)

6.

In the trapezium below,
 $FG = 2x^2 - 5x$ and $AB = 14$ cm. FG
 is parallel to AB .



Find the value of x **Circle the correct answer** /3

A: $x = -1$ or $x = -7$

B: $x = 2$ or $x = 5$

C: $x = -2$ or $x = -7$

D: $x = -1$ or $x = 3.5$

7. Find the Coordinates of the mid-point of the segment joining the pair of the point $A(-8,7)$
 and $B(-2, -17)$ **Circle the correct answer** /3

A: $M(3,4)$

B: $M(-10, -10)$

C: $M(-5, -5)$

D: $M(-3, -3)$

8. The median of the numbers 8,5,6,2,4,9,3,7 is **Circle the correct answer** /3

A: 3

B: 2.5

C: 5.5

D: 3.5

9. What is the product of $3\sqrt{2} + 2\sqrt{3}$ and its conjugate? **Circle the correct answer** /3

A: 0

B: $9\sqrt{2} + 4\sqrt{3}$

C: $9\sqrt{2} - 4\sqrt{3}$

D: 6

10. Simplify the expression $\sqrt{45} - \sqrt{320} + \sqrt{500}$. **Circle the correct answer** /3

A: $5\sqrt{5}$

B: $\sqrt{135}$

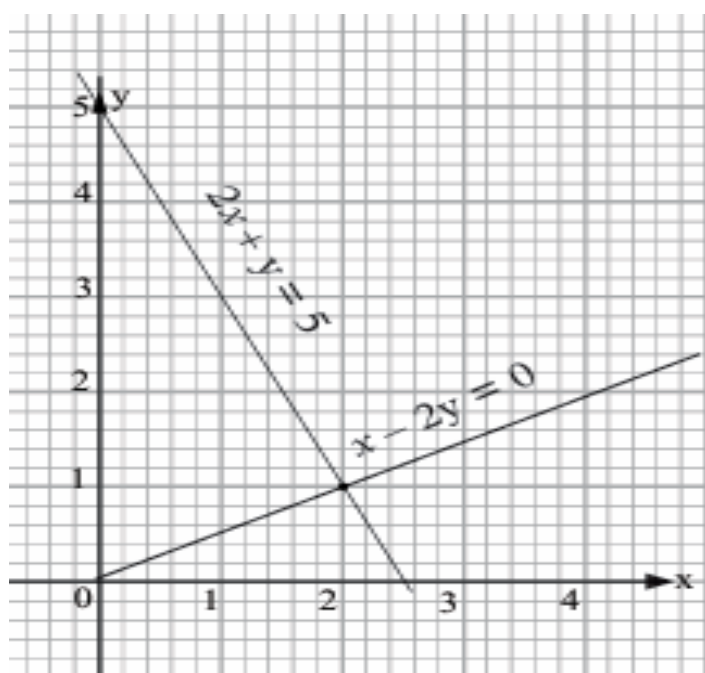
C: 15

D: 5

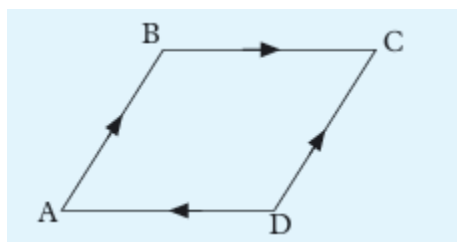
SECTION B: ATTEMPT ALL QUESTIONS /10marks

ANSWER BY TRUE (T) OR FALSE (F) 2marks for each correct answer

1. Pythagoras 'theorem is only applied in right angled triangle.()
2. In any right angled triangle the hypotenuse is equal to the sum of other two sides.()
3. The following simultaneous linear equations is classified as consistent and dependent.()



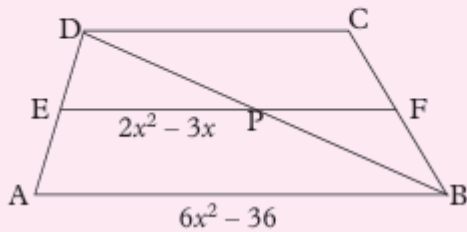
4. The following measurements represent the sides of a right angled triangle.()
28 m by 45 m by 53 m
5. In figure below ,vectors $\overrightarrow{BC}$ and $\overrightarrow{DA}$ are equivalent.()

**SECTION C ATTEMPT ANY TWO QUESTIONS /20marks**

1. The points $A(1,4)$, $B(5,4)$, $C(5,2)$ and $D(1,2)$ are vertices of the quadrilateral A, B, C, D .
(a) Find the coordinates of A', B', C', D' images of A, B, C, D respectively under reflection in line $x = -1$

- (b) Find the coordinates of A'', B'', C'', D'' images of A', B', C', D' , Respectively under reflection in line $y = -x$
- (c) Plot the three quadrilaterals, in the same Cartesian plane **/10marks**
2. Given the points $A(-2, 3), B(4, -5)$ and $C(-1, -6)$
- (a) Find the column vector **/3marks**
- (i) $\overrightarrow{AB}$ (ii) $\overrightarrow{BC}$ (iii) $\overrightarrow{AC}$
- (b) Find the coordinates of the midpoint of
- (i) AB (ii) BC (iii) AC **/2marks**
- (c) Find the column vector
- (i) $2\overrightarrow{AB} - 3\overrightarrow{BC}$ (ii) $\overrightarrow{BC} - 5\overrightarrow{AC}$ (iii) $\overrightarrow{AB} - \overrightarrow{BC} - \overrightarrow{AC}$ **/2marks**
- (d) Find the perimeter of the triangle ABC **/3marks**
4. (a) **/5marks**

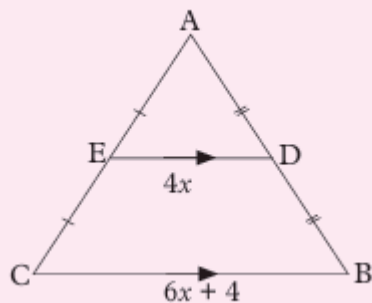
In the Trapezium below, E is the midpoint of AD , find the value of x , given that $AB = 6x^2 - 36$ and $EF = 2x^2 - 3x$.



(b)

/5marks

In the triangle below, find the value of x .



.GOOD LUCK.

NAMES.....

CLASS:S2....

Space reserved for the answers of the questions (1 – 10)

1	2	3	4	5	6	7	8	9	10

Space reserved for the answers of the TRUE or FALSE questions

1	2	3	4	5

Space reserved for the answers of the questions of section C