

DISTINCTION KJSEA ASSESSMENT TEST

JUNIOR SCHOOL

GRADE NINE - 2025

MATHEMATICS

9

PREMIER

2 Hrs 30 Min



002

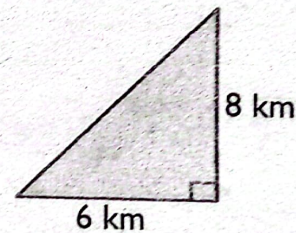
Instructions to the learner

- a) This paper has two sections totalling to 100 marks.
- b) Read instructions in each part and answer the questions appropriately.

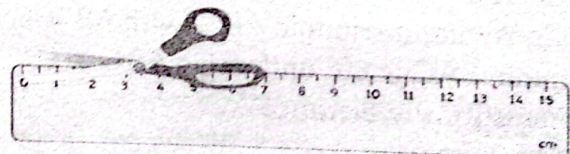
Section 1: Multiple choice questions (20 Mks)

1. A teacher wrote the work below on a card and showed to her class. Calculate the answer in the following task:
 $895 + 1\,025 \div 5$
 A. 384 B. 1 100
 C. 380 D. 95
2. Common factors are factors that can divide both numbers. What are the common factors of 24 and 36?
 A. 24, 36 and 1
 B. 1, 2, 3, 4, 6 and 12
 C. 2, 3, 4 and 6
 D. 1, 2, 3, 4, 6, 12 and 18
3. Given a fraction to add, find the solution in the following addition; $5\frac{1}{4} + 5\frac{2}{5} =$
 A. $10\frac{3}{20}$ B. $10\frac{5}{20}$
 C. $10\frac{13}{20}$ D. $10\frac{15}{20}$
4. What do you get when you subtract the sum of 382.43 and 45.49 from 513.66?
 A. 45.49 B. 850.6
 C. 176.72 D. 85.74
5. A square board has an area of 144 square units. How long is each side of the board?
 A. 11 units B. 12 units
 C. 13 units D. 14 units
6. The ratio between the number of Anita's cousins and the number of John's cousins is 5:8. If Anita has 15 cousins, how many cousins does John has?
 A. 5 B. 8
 C. 24 D. 40
7. If 25 learners took an exam and 4 of them failed. What percentage of them have passed the exam?
 A. 80% B. 84%
 C. 85% D. None

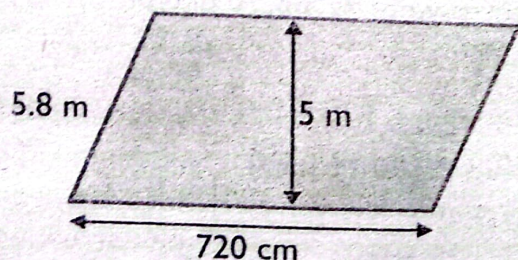
8. What is the volume of a rectangular box whose length, breadth and height is $2p$, $4q$ and $8r$ respectively is?
 A. $14pqr$ B. $2p + 4q + 8r$
 C. $64pqr$ D. 64
9. Which of the following best describes the solutions to the inequality shown below?
 $3l - 6 \geq 8$
 A. $l \geq$ B. $l \geq 2$
 C. $l \geq$ D. $3l \geq 14$
10. $2x + 8 = 20$
 A. $x = 14$ B. $x = 8$
 C. $x = 6$ D. $x = 10$
11. A ship sails 6 km East and then 8 km north. Find the ship's distance from its starting point.



- A. 14 km B. 10 km
 C. 29 km D. 2 km
12. What is the length of the pair of scissors below?



- A. 9 cm B. 7 m
 C. 8 cm D. 7 cm
13. The following figure is a parallelogram. Find its area in m^2 ?



- A. $36 m^2$ B. $41.76 m^2$
 C. $29 m^2$ D. $3\,600 m^2$

14. Compare the volume of liquid in the containers below and write them in an increasing order;



750ml
A



2L
B

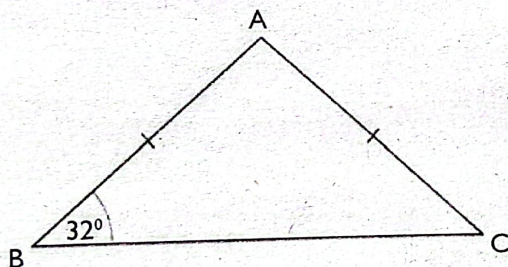


330ml
C



1.25L
D

- A. D, B, C, A B. C, A, B, D
C. C, A, D, B D. A, B, C, D
15. A helicopter flies 18 km in 20 minutes. Calculate its average speed in km/h.
A. 0.9 km/hr. B. 1.1 km/hr.
C. 90 km/hr. D. 54 km/hr.
16. Find the radius of the circle if area of sector is 924 cm^2 and angle at the center is 60° .
A. 42 B. 21
C. 22 D. 46
17. A bottle of cola costs sh. 35.50 and a bag of crisps costs sh. 70.50. Lamia buys 3 bottles of cola and 5 bags of crisps. She pays with a sh. 500 note. Calculate the balance Lamia got.
A. Sh. 459 B. Sh. 31.50
C. Sh. 41.50 D. Sh. 41
18. Triangle ABC below is an isosceles triangle. Angle ABC is 32° . And $AB = AC$. Find angle BAC.



- A. 116° B. 32°
C. 158° D. 164°
19. Construct a triangle ABC, with AB is 6cm, angle BAC is 60° and angle ABC is 45° . Measure the distance AC.
A. 4.2 cm B. 4.4 cm
C. 4.0 cm D. 4.5 cm
20. Jayden play in a golf tournament. Find his average score for the four rounds if his scores were 72, 66, 70 and 68.
A. 276 B. 92
C. 1 D. 69

Section 2: (80 Marks)

21. Given the following activities in integers, find their solutions showing the correct way:
a) $(-9) + (-4) - (-3) =$ (1 mk)

b) $(-6) \times (-3) =$

(1 mk)

22. The restaurant sells 142.46 litres of milk on Sunday and 17.23 litres more than this amount on Monday. The following day, 18.81 litres less milk than on Monday were sold. How many litres of milk did they sell on Tuesday? (2mks)
23. One face of a cube has an area of 225 m^2 . What is the volume of the cube? (2mks)
24. Given an index below to express in logarithm form, show the way. $5^3 = 125$ (2mks)
25. 5 photocopiers can produce 90,000 copies in 6 hours a day. How many photocopiers will be required to produce 168,000 copies working 8 hours a day? (2mks)
26. A group of students are making posters to advertise for a bake sale. 12 large signs and 60 small signs are needed. It takes 10 minutes to paint a small sign and 30 minutes to paint a large sign. How many students will be needed to paint all of the signs in 2 hours or less? (2mks)
27. Use square and square roots table to solve the following; $4.56^2 - \sqrt{30.4}$ (2mks)
28. Andrew has $\frac{3}{4}$ of a candy bar left. He gives $\frac{1}{2}$ of the remaining bit of the candy bar to his sister. What fraction of the whole candy bar does Andrew have left now? (2mks)

29. Simplify each of the following algebraic expressions:

a) $(4x^2y^3 - 2x) - (2x + 2x^2y^3)$ (2mks)

b) $(-2 - 2u^3) - (-5u^3 + 5)$ (2mks)

c) $(-3 + 3x) - (-7x + 2)$. (2mks)

30. a) Solve the linear inequalities below and represent the answer on a number line.

$-7 \leq 2x + 3 \leq 15$. (3mks)

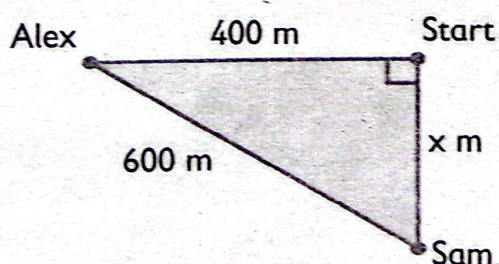
b) The sum of two brother's ages is less than 28 years.

Represent the statement above in a linear inequality. (2mks)

31. a) The cost to rent a video game is \$2 plus \$0.50 per day. The cost to rent a video game at TeeVee rentals is \$1 plus \$0.75 per day. After how many days will the cost of renting a video game at Action video will be the same as the cost of renting a video game at TeeVee rentals? (3mks)

b) The sum of father's age and twice the age of his son is 70. If we double the age of the father, and add it to the age of his son the sum is 95. Find their present ages? (2mks)

32. Alex and Sam start from the same point. Alex walks 400 meters west. Sam walks x meters south, until they are 600 m apart from each other. How far does Sam walk? (2mks)



33. Mr. Green was hanging Christmas lights.

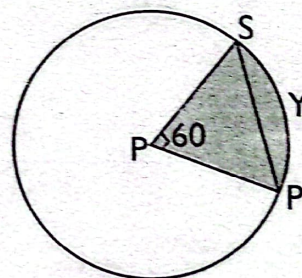
One strand of light was 2 m long. A second strand of light was 120 cm long. If Mr. Green strung the lights from end to end, how many centimeters did both strands span? (3mks)



34. The radius of a circle is 3.5 cm. Work out the area of the circle. Give your answer correct to 3 significant figures. (3mks)

35. Jesse throws a ball that moves at an average speed of 35 meters per second and travels for a total of 4.5 seconds. Work out the distance travelled by the ball. (2mks)

36. The circle is 21 cm and the angle subtending the arc is 60° . The arc is the angle subtending. Find the area of the sector. (3mks)

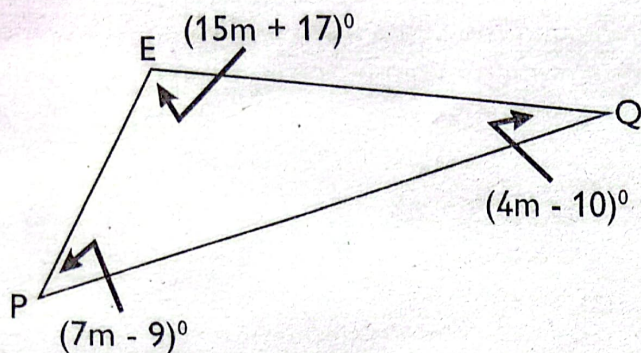


37. Jonathan went to America. He exchanged £750 into American dollars. The exchange rate was £1 = \$1.23.

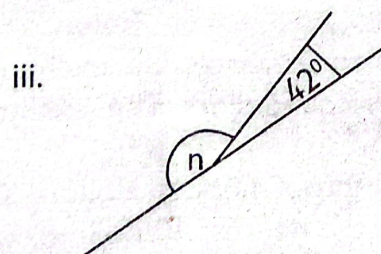
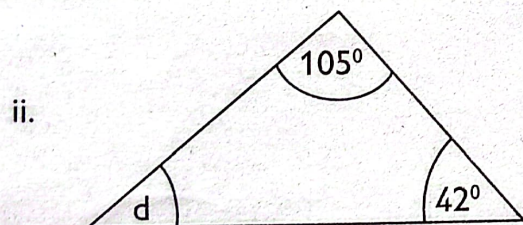
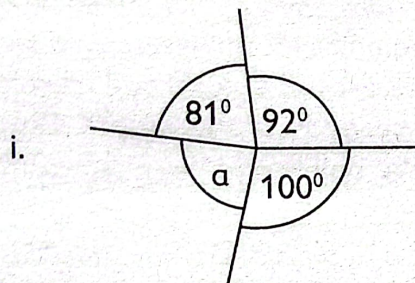
a) Exchange £750 into American dollars. Give your answer to the nearest 10 dollars.

b) Jonathan brings \$147 back home. Exchange \$147 into UK pounds. Give your answer correct to the nearest pence.

38. a) Given the triangle PQE, calculate the size of angle Q. (2mks)



- b) Work out the value of angles marked with letters. (6mks)



39. a) Construct a triangle ABC in which $a = 4$ cm, $b = 5$ cm, $c = 6$ cm. (3mks)

- b) Construct a square ABCD with diagonal $AC = e = 12$ cm. (3mks)

- c) Measure the angles in triangle ABC in (a) and (b). (2mks)

40. a) Given a grouped data in the table below. Study the table and answer the questions.

X	Frequency
0 – 10	1
11 – 20	5
21 – 30	10
31 – 40	6
41 – 50	3

Find the mean? (3mks)

ii. Determine the mode. (2mks)

iii. What is the median? (2mks)

- b) A jar contains 3 red, 4 blue, and 5 green marbles. What is the probability of randomly drawing a;

i. Red marble? (2mks)

ii. Blue marble? (2mks)

iii. Green marble? (2mks)

- c) In a class of 20 students, 12 are girls. What is the probability of randomly selecting a boy? (2mks)