

MATHEMATICS PAPER
CLASS EIGHT
FOR K.C.P.E 2015

AVAILABLE ONLINE AT:

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MATHEMATICS

Time: 2 hours

READ THESE INSTRUCTIONS CAREFULLY

1. You have been given this question booklet and a separate answer sheet. The question booklet contains 50 questions.
2. Do any necessary rough work in this booklet.
3. When you have chosen your answer, mark it on the **ANSWER SHEET**, not in the question booklet.

HOW TO USE THE ANSWER SHEET

4. Use only an ordinary pencil.
5. Make sure that you have written on the answer sheet:

YOUR INDEX NUMBER

YOUR NAME

NAME OF YOUR SCHOOL

6. By drawing a **dark line** inside the correct numbered boxes mark your full Index Number (i.e. School Code Number and the three-figure Candidate's Number) in the grid near the top of the answer sheet.
7. Do not make any marks outside the boxes.
8. Keep your answer sheet as clean as possible and **DO NOT FOLD IT**.
9. For each of the Questions 1 – 50, four answers are given. The answers are lettered A, B, C and D. In each case only **ONE** of the four answers is correct. Choose the correct answer.
10. On the answer sheet the correct answer is to be shown by drawing a **dark line** inside the box in which the letter you have chosen is written.

Example

In the Question Booklet:

- 14.** Which one of the numbers below is divisible by 2, 5 and 10?

- A. 45
- B. 70
- C. 82
- D. 2 105

The correct answer is **B** (70)

On the answer sheet:

14 A B C D

14 A **B** C D

24 A B C D

34 A B C D

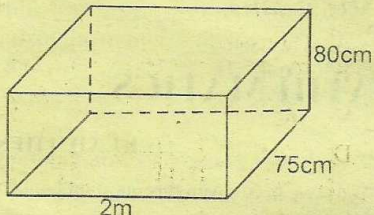
44 A B C D

In the set of boxes numbered **14**, the box with the letter **B** printed in it is marked.

11. Your **dark line** **MUST** be within the box.
12. For each question **ONLY ONE** box is to be marked in each set of four boxes.

This question paper consists of 8 printed pages.

Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.

1. What is twelve million thirty thousand and sixty five less half a million?
A. 11 530 065
B. 11 430 065
C. 12 530 065
D. 12 430 065
2. Round off 467,3498 to the nearest thousandth
A. 467.35
B. 467.350
C. 1 000
D. 467.349
3. What is the value of $\frac{2(8^2 - 6^2)}{2(2^2 - 2)} - 6$?
A. 14
B. 6
C. 12.5
D. 8
4. On a certain leap year 24th January was on a Thursday. Which day was 7th April the same year?
A. Thursday
B. Sunday
C. Monday
D. Tuesday
5. Which of the following number patterns decreases with one hundred only?
A. 52 265, 52 365, 52 465, 52 565
B. 34 205, 34 105, 34 005, 33 905
C. 83 200, 82 200, 81 200, 80 200
D. 46 307, 46 407, 46 207, 47 207
6. The price of petrol was increased in the ratio 6:5. If the new price is sh.90 per litre, what was the original price?
A. Sh.75
B. Sh.108
C. Sh.120
D. Sh.72
7. The diagram below shows a rectangular tank.

If the tank is $\frac{3}{4}$ full how many litres will be removed to make it $\frac{1}{2}$ full?
A. 1 200 litres
B. 900 litres
C. 600 litres
D. 300 litres
8. Tajeu paid sh.6 400 for a TV after getting 20% discount from the marked price. What was the marked price of the TV set?
A. Sh.7 680
B. Sh.5 120
C. Sh.8 000
D. Sh.1 600
9. At Inchoroi primary school the ratio of boys to girls is 4:3. If there are 48 more boys than girls, how many boys and girls are there altogether?
A. 192
B. 336
C. 144
D. 48
10. The diagonal of a rectangular garden is 260m. If one of the sides measures 100m, what is the area of the land in hectares?
A. 2.6 hectares
B. 1.2 hectares
C. 1.3 hectares
D. 2.4 hectares
11. After sleeping for 8hrs 5mins Sintoiya woke up at 6.30am on Tuesday. At what time and which day did she sleep in 12hrs clock system?
A. 10.25pm Monday
B. 10.25pm Tuesday
C. 2225hrs Monday
D. 2225hrs Tuesday

12. What is the value of digit 6 in the number 32.4368?

A. Thousandth
B. 60
C. $\frac{6}{1000}$
D. 0.06

13. Express $2\frac{1}{2}\%$ as a ratio in its simplest form.

A. 40 : 1
B. 1 : 2.5
C. 1 : 39
D. 1 : 40

14. A Kisumu bound bus has a mass of 5.25 tonnes when empty. It carried a total of 64 passengers. If there were 42 adults with an average mass of 70kgs, and the rest were children with an average mass of 45kgs, what was the total mass of the loaded bus in kgs?

A. 3 930kgs
B. 9 180kgs
C. 5 250kgs
D. 9 730kgs

15. The marks scored by 12 pupils in a science test are as follows:-

63, 64, 52, 58, 47, 67, 74, 83, 62, 71, 57 and 83

What is the sum of mode and median?

A. 146.5
B. 83
C. 63.5
D. 147

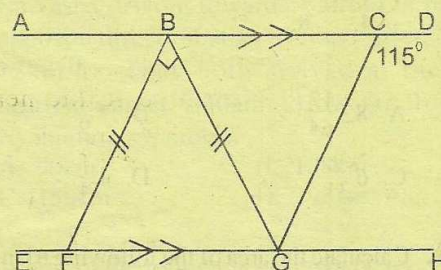
16. On a map of scale 1:10 000 a rectangular plot of land measures 5cm by 3cm. What is its area in m^2 ?

A. $15m^2$
B. $1\,500m^2$
C. $15\,000m^2$
D. $150\,000m^2$

17. A farmer produced 6 800 bags of wheat in the year 2014. This was a 20% decrease in the yield from 2013. How many bags of maize in total did he harvest in the two years?

A. 6 800
B. 10 200
C. 15 300
D. 18 700

18. In the diagram below line AD is parallel to EH. Line BF = BG and angle DCG is 115° .



What is the size of angle BGC?

A. 65°
B. 45°
C. 90°
D. 70°

19. What is the value of x in the equation

$$\frac{x-3}{3} + \frac{5x+15}{5} = 4 \quad ?$$

A. $x = 4\frac{1}{2}$
B. $x = 1\frac{1}{2}$
C. $x = 6$
D. $x = 2$

20. Arrange the following $\frac{4}{9}$, 0.4, 50% and $\frac{3}{7}$ from the largest to the smallest?

A. 50%, $\frac{4}{9}$, $\frac{3}{7}$, 0.4
B. 0.4, $\frac{3}{7}$, $\frac{4}{9}$, 50%
C. $\frac{4}{9}$, $\frac{3}{7}$, 0.4, 50%
D. 0.4, 50%, $\frac{3}{7}$, $\frac{4}{9}$

21. Mr. Githinji from Nado-Enterit primary school bought a school TV on hire purchase. He paid a deposit of sh.5 400 and nine equal monthly instalments of sh.1 800. He later realised that he paid 25% more than the marked price. What was the marked price for the TV?

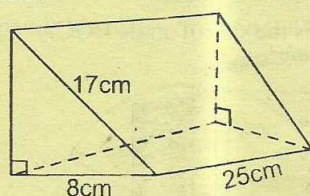
A. Sh.17 280
B. Sh.16 200
C. Sh.21 600
D. Sh.27 000

22. Work out:-

$$\begin{array}{r} 7\frac{1}{2} \times 3\frac{1}{4} \\ 3\frac{1}{4} + \frac{1}{8} \end{array}$$

- A. $82\frac{17}{64}$ B. $7\frac{2}{9}$
C. $6\frac{9}{31}$ D. $4\frac{1}{4}$

23. Calculate the area of the following triangular prism.



- A. 1500cm^2 B. 1060cm^2
C. 1120cm^2 D. 1700cm^2

24. Which of the following is the next number in the sequence.

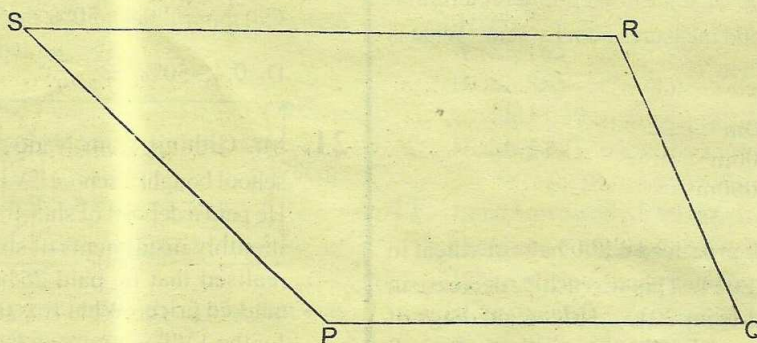
87, 64, 45, 28, 15, ?

- A. 7 B. 4
C. 3 D. 6

25. At Grace land school there are two streams from classes 1 to 4 while there is only one stream from classes 5 to 8. The average number of pupils per class is 28. Each pupil from classes 1 to 4 is given 8 exercise books, while the rest are given 12 exercise books. How many cartons of books did Mrs. Mwaura buy for the whole school if each carton holds 196 exercise books?

- A. 16 cartons
B. 12 cartons
C. 3 136 cartons
D. 1 792 cartons

26. In the quadrilateral P, Q, R, S below, construct a perpendicular from point P to cut line SR at T. Draw a line from Q to meet line SR at T.



What is the size of angle PTQ?

- A. 125° B. 55° C. 35° D. 45°

27. Onyango, Kyalo and Wandera contributed some money to buy a plot. Kyalo contributed a third of what Wandera contributed. Onyango contributed shs.15 000 less than what Kyalo and Wandera contributed. If Wandera contributed shs. x , which of the following equations can be used to calculate the amount contributed by Kyalo if the total amount raised was shs.240 000?

A. $8x - 45,000 = 720\,000$
 B. $1\frac{1}{3}x - 15,000 = 240\,000$
 C. $2\frac{2}{3}x - 15,000 = 720\,000$
 D. $1\frac{2}{3}x - 15,000 = 240\,000$

28. A saleslady earns a basic salary of sh.17 500 per month. She is also given 5% commission on any value of sales above sh.200 000. How much money did she earn in the month of July after selling five water pump generators each valued at sh.125 000?

A. Sh.38 750 B. Sh.31 250
 C. Sh.21 250 D. Sh.48 750

29. Karisa bought 200 oranges for sh. 650. He also spent sh.150 for transport to the market. On reaching the market he realized that 15 oranges were already spoilt and he gave out another 5 oranges. He grouped the remaining oranges in piles of five and sold each pile at sh.30. What was his percentage profit?

A. $66\frac{2}{13}\%$ B. $53\frac{3}{4}\%$
 C. 28% D. 35%

30. Akai bought the following items from a shop.
4½kg cooking fat @sh.140
3-2kg packets of wheat flour @sh.65 per kg.
2 loaves of bread for sh.90
3kg rice @ sh.70
3 - 500ml packets of milk

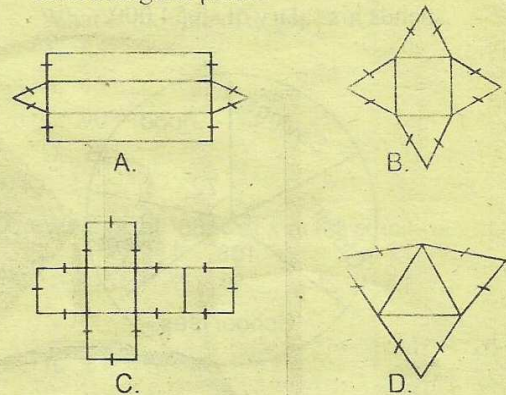
After giving the shopkeeper two thousand shillings note, she got a balance of shs.500. What is the cost of one packet of milk?

A. Sh.180
 B. Sh.1320
 C. Sh.60
 D. Sh.1 500

31. Eustus left Naivasha at 8.00am driving towards Nyahururu at an average speed of 60km/h. At the same time Mr. Njogu left Naivasha driving towards Nairobi in the opposite direction at an average speed of 72km/h. They both arrived at their destinations at 9.30am. How far from Nyahururu is Nairobi?

A. 90km B. 108km
 C. 150km D. 198km

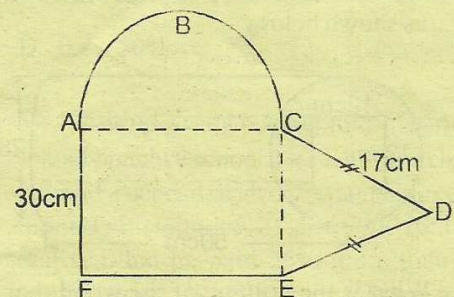
32. Which of the following nets will be used to form triangular prism?



33. A cylindrical container has a volume of 3696cm^3 . What is its radius if the height is 24cm?

A. 14cm B. 7cm
 C. 154cm D. 28cm

34. In the diagram below ABC is a semicircle. Line AC is parallel to line FE and line AC=FE=56cm. Line CD=DE=17cm, line AF=30cm.

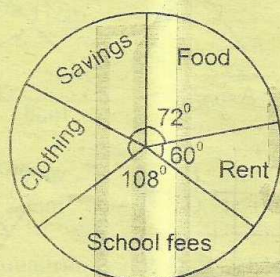


What is the area of the figure in square centimetres?

A. 120cm^2 B. 1680cm^2
 C. 3032cm^2 D. 1232cm^2

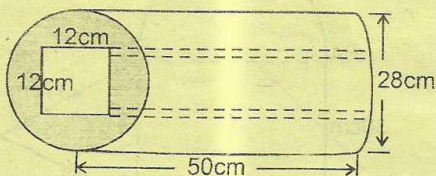
35. During the Lewa conservancy half marathon a total of 12 000 people took part. There were three times as many children as adults. The registration fee per child was sh.500. A total of 9 million was raised from the registration charges. How much was each adult paying for registration?
- A. Sh.1 500
B. Sh.1 250
C. Sh. 900
D. Sh.2 000

36. The pie chart below shows how Kantet spends his salary of sh.54 000.



If the angle for school fees is double the angle for savings, how much money did he spend on clothing?

- A. Sh.16 200
B. Sh.9 000
C. Sh.8 100
D. Sh.9 900
37. A cylindrical log of wood has a diameter 28cm and a length of 50cm. A square hole of sides 12cm was made through the length as shown below.



What is the volume of the wood that was left after making the hole?

- A. 30 800cm³
B. 23 600cm³
C. 7 200cm³
D. 38 000cm³

38. What is twice the value of $\frac{2n^2 - 2(m-b)}{m-b}$

if $n = 8$, $m = 6$ and $b = 4$?

- A. 62
B. 124
C. 252
D. 126
39. Ngesa bought 12 oranges less than mangoes, he also bought $r + 7$ apples. If the number of mangoes were x , which expression shows the total number of fruits bought by Ngesa?
- A. $r + 3x + 12$
B. $r + 2x - 19$
C. $r + 2x - 5$
D. $r + 2x + 19$

40. The table below shows a part of a table for charges of sending money through money order.

Value of the order	Ordinary money order (shs)	Express money order (Shs)
2001 - 5000	230	330
5001 - 8000	310	425
8001 - 14000	420	505
14001 - 20000	515	615
20001 - 28000	625	725
28001 - 35000	855	950

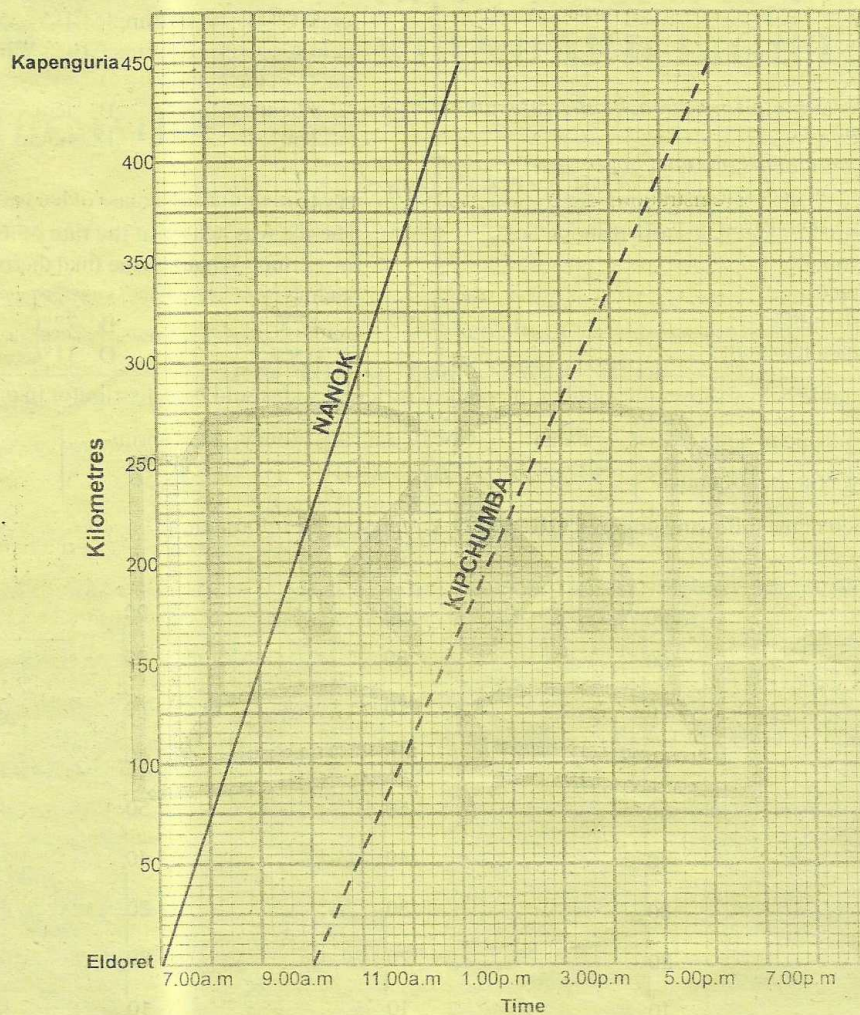
Mkoto sent sh.10 500 to his daughter in school using Express money order. He later sent sh.19 500 to his son in the same school using Ordinary money order. How much would he have saved if he used one ordinary money order to send the total amount of money?

- A. Sh.165
B. Sh.855
C. Sh.1 020
D. Sh.1 875

41. Juma borrowed Sh.80 000 from a bank that charges a compound interest at the rate of 12% p.a. How much interest did he pay back after 2 years?

- A. Sh.100 352
B. Sh.9 600
C. Sh.89 600
D. Sh.20 352

42. The graph below shows journeys made by two motorists from Eldoret to Kapenguria.



Between the two motorists who was faster and by what speed was he faster than his friend?

- A. Nanok 75km/h
 B. Nanok $18\frac{3}{4}$ km/h
 C. Kipchumba $56\frac{1}{4}$ km/h
 D. Kipchumba $18\frac{3}{4}$ km/h
-
43. It takes Timothy 6 minutes to sweep the classroom. Tony takes 9 minutes to sweep the same class. How long would it take both boys to sweep the class together?
- A. 15 min
 B. 3 min
 C. $3\frac{3}{5}$ min
 D. $2\frac{1}{2}$ min
44. A square carpet of area 12.25m^2 was laid on a rectangular floor measuring 4.5m by 5m. What was the area of the room not covered by the carpet in cm^2 ?
- A. 225 000 cm^2
 B. 102 500 cm^2
 C. 10.25 cm^2
 D. 22.5 cm^2

45. The following are characteristics of a certain quadrilateral
- (i) Sum of interior angles adds up to 360°
 - (ii) Diagonals bisect each other at right angle.
 - (iii) Diagonals are not equal
 - (iv) All sides are equal

The quadrilateral described above is a

- A. square
- B. rectangle
- C. rhombus
- D. parallelogram

46. Draw a triangle ABC such that line AB = 7cm, angle CAB = 70° and angle CBA = 55° . Draw a circle touching points ABC. What is the length of the radius?

- A. 8.6cm
- B. 4cm
- C. 2cm
- D. 4.3cm

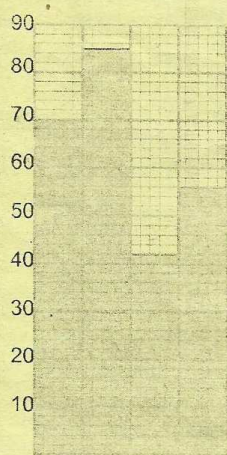
47. The temperature of a mass of ice was -25°C . The ice was heated at the rate of $6^\circ\text{C}/\text{min}$ for 12 min. What was the final thermometer reading?

- A. 47°C
- B. 72°C
- C. -19°C
- D. 31°C

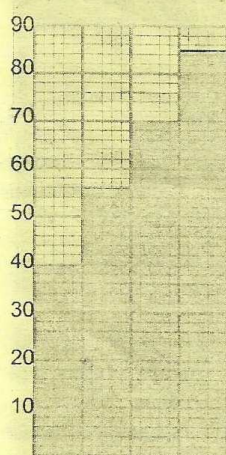
48. The table below shows the number of crates of different sodas sold by a distributor in one day.

Type of soda	Fanta	Coca-cola	Stoney	Sprite
Number of crates	70	85	42	56

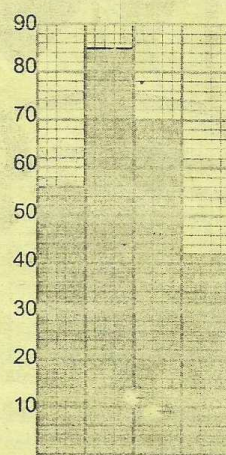
Which of the following graphs **CORRECTLY** represent the information?



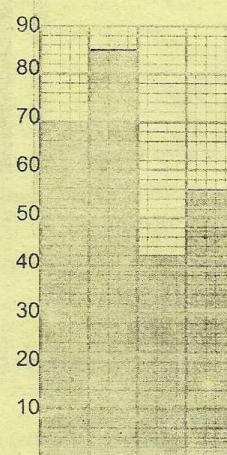
A.



B.



C.



D.

49. Simplify the following expression.

$$2(4n + 6z) + 2(2n - 3z)$$

$$12(2n - z) + 3(4z - 5n)$$

A. $\frac{12n + 6z}{9n}$

B. $\frac{4n + 2z}{3n + 8z}$

C. $\frac{12n + 6z}{9n + 24z}$

D. $\frac{4n + 2z}{3n}$

50. A company hired 36 men to do a certain job in 12 days. A number of men failed to turn up and the job took 6 more days. How many men turned up for the job?

- A. 18 men
- B. 6 men
- C. 24 men
- D. 12 men