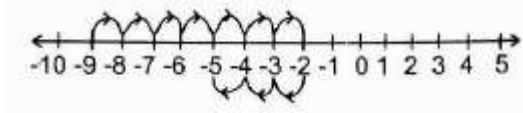




GRADE 8 MATHEMATICS

1. During a Mathematics group activity, Mr. Kibor gave his learners a number card with the number line as shown.



1

a) Write an expression that is represented on the number line above. (2 marks)

b) Determine the value of the expression you have written in (a) above. (1 mark)

2. Work out the following: (2 marks)

$$12\frac{3}{8} - 5\frac{1}{4} + 10\frac{1}{2}$$

3. Express the following recurring decimal as a fraction in its simplest form. 0.16 (2 marks)
(6 is recurring)

4. Express 15964 in standard form. (1 mark)

5. The population of Nairobi city was three million, six hundred and forty-eight thousand five hundred and thirty-six. Due to rural-urban migration in search for jobs. The population increased by twenty-four thousand nine hundred and sixty-eight. What was the new population? (2 marks)

2

6. The area of a square is 784cm^2 . What is the width of a rectangle which has the same area as the square, if the length of the rectangle is 49cm? (2 marks)

7. Mohamed bought the following items from a supermarket:

2 loaves of bread @sh. 55

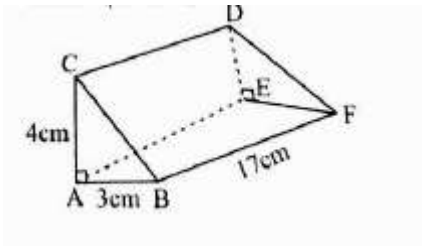
2 packets of wheat flour @sh. 185

2kg of sugar @sh. 120

3 packets of tea leaves @sh. 20

If he paid using a one-thousand-shilling note and the shopkeeper gave him the balance in twenty-shilling coins denominations. How many coins did he receive? (2 marks)

8. Find the surface area of the triangular prism below. (2 marks)

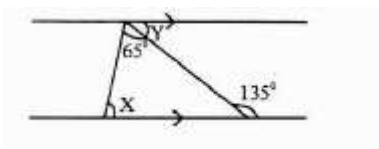


9. Mwaura designed a door frame for his dog in the shape of a triangle. The vertices of the triangle were marked XYZ. The triangle was such that $\angle XYZ = 35^\circ$ and $XY = YZ = 7\text{cm}$. Using a pair of compasses and a ruler only, construct a triangle to represent the window frame. (2 marks)

3

10. Use the square root table to find the square root of 1.296. (2 marks)

11. Find the value of the angle marked X and Y in the figure below. (2 marks)



12. If $P=3$, $R=4$, $q=2$ and $S=\frac{1}{4}R$ Find the value of $8(s+qr)$ (2 marks)

13. A bicycle wheel of diameter 42cm covered 300 complete revolutions. Calculate the total distance covered in metres ($\pi=22/7$) (2 marks)

14. Kimenzu borrowed sh. 45000 from an online lending platform that charged simple interest of 3%per annum. How much did she pay altogether after 2 years? (2 marks)

4

15. Solve the following simultaneous equation. (2 marks)

$$4x-3y=7 \quad x+3y=13$$

16. The marked price of a pair of trousers is sh. 3090. What will be the sale price if the marked price is reduced in the ratio of 4:5? (2 marks)

17. Grade 8 learners of Bidii Academy were asked by their mathematics teacher to arrange the following fractions in ascending order. Find the order they gave. (2 marks)

$$\frac{2}{5}, \frac{4}{9}, \frac{3}{7} \text{ and } \frac{1}{2}$$

18. In a charity walk, the number of women was 96. The number of girls was three times that of the women and 70 more than that of the men. The number of boys was 15 more than that of the men. How many people participated in the charity walk? (2 marks)
19. Njoroge deposited sh. 420000 in an investment company at 12% compound interest for 2 years. How much was the investment worth after two years? (2 marks)
20. The length of a rope is 6.397m. Express the length of the rope to three significant figures. (1 mark)
21. A butcher used to sell 340kgs of meat daily. His sales later decreased by 3%. How many kilograms did he sell after the decrease? (2 marks)
22. A closed cylindrical drum has a diameter of 2.1m and a height of 4m is made of a metallic sheet. Find the surface area of the metallic sheet used in square metres. ($\pi = \frac{22}{7}$) (2 marks)
23. Solve the equation: (2 marks)

$$\frac{2x-1}{8} + \frac{3x+7}{3} = 3$$

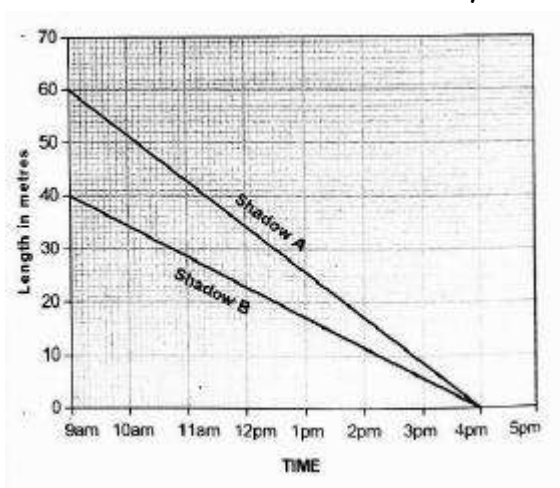
24. The table below shows different types of sports pupils participate in at school.

Type of sport	Soccer	Volleyball	Hockey	Basketball
Number of pupils	30	12	28	20

If this information is represented in a pie- chart, what angle will represent basketball? (2 marks)

6

25. The line graph below represents the length of the shadows of two boys recorded at different times on a certain day.



- a) What was the length of shadow B at 12pm? (1 mark)

- b) What was the length of shadow A at 10am? (1 mark)

c) At what time of the day were the shadows at equal lengths? (1 mark)

Mathematics

Answers

1. a) $-9+7-3$

b) -5

2. $17\frac{5}{8}$

3. $\frac{1}{6}$

4. 1.5964×10^4

5. 3673504

6. 16 cm

7. 11

8. 216 cm^2

9. to be assessed

10. 1.1384

11. $x = 70^\circ$ $y = 45^\circ$

12. 72

13. 396 m

14. sh. 47,700

15. $y = 3x = 4$

16. sh. 2472

17. $\frac{2}{5}, \frac{3}{7}, \frac{4}{9}, \frac{1}{2}$

18. 835 people

19. ksh. 526848

20. 6.390

21. 329.8 kg

22. 33.33 m²

23. $x = \frac{19}{30}$

24. 80°

25. a) 23

b) 51

c) 4pm