

COMPETENCY BASED EDUCATION
JUNIOR SCHOOL EDUCATION ASSESSMENT
NOVEMBER-DECEMBER ASSIGNMENT 2026



GRADE 8 – MATHEMATICS

Time: 2 Hours

LEARNER'S DETAILS

Name: _____ **School:** _____

Assessment Number: _____ **Date:** _____

School Code: _____ **Signature:** _____

INSTRUCTIONS TO CANDIDATES

1. Write your name in the spaces provided above.
2. Write the name of your school and your stream in the spaces provided.
3. Write your admission number and the date of the assessment in the spaces provided.
4. This paper consists of two sections: A and B.
5. Answer all questions in section A and section B.
6. Answer the questions in English.
7. All answers **MUST** be written in the spaces provided in the paper.
8. Do NOT remove any page from this question paper.

FOR OFFICIAL USE ONLY (EXAMINER'S USE)

SECTION	SECTION A	SECTION B	% SCORE	EE1	EE2	ME1	ME2	AE1	AE2	BE1	BE2
SCORE RANGE	30 MARKS	50 MARKS		90-100	75-89	58-74	41-57	31-40	21-30	11-20	1-10
POINTS				8 POINTS	7 POINTS	6 POINTS	5 POINTS	4 POINTS	3 POINTS	2 POINTS	1 POINT
LEARNER'S TOTAL SCORE											

SECTION A (30 MARKS)

Answer ALL questions in this section.

1. During an Integrated Science practical, grade 8 learners measure the mass of a specimen as 5.1956g.
 - a. Round off the number 5.1956 correct to 2 decimal places. (1 mk)
 - b. What is the place value of digit 6 in the number 5.1956? (1 mk)

2. The temperature of some towns were recorded as below.

Town	Temperature
Nyeri	+12.5°C
Cape Town	-8.6°C
London	-5°C
Cairo	-36.8°C
Lagos	+28°C

Identify the integers from the temperatures recorded. (2 mks)

3. Grade 8 learners used their laptops to determine the value of $(+4) - (6)$. Use a number line to evaluate the value of $(+4) - (6)$. (2 mks)

4. a. Determine the value $\frac{2}{3} - \frac{1}{5} \div \frac{1}{2}$ (2 mks)

b. Msafari spent $\frac{1}{8}$ of her salary on food, $\frac{1}{2}$ on rent, $\frac{1}{2}$ of the remainder on school fees and saved the rest. Determine the fraction of the salary that she saved. (3 mks)

5. a. Determine the value of $1.96 + 144 \div 2 - 36$. (2 mks)

b) Express $0.\dot{1}\dot{7}$ as a fraction. (2mks)

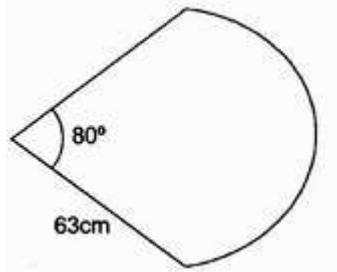
6. A learner converted a certain mass from grams to tonnes. He got 0.007015t.

a. Determine the number of significant in the number 0.007015. (1 mk)

b. Express the number 0.007015 to 3 significant figures. (1 mk)

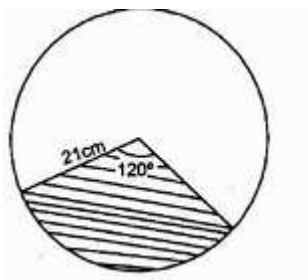
c. Express the number 0.007015 in standard form. (1 mk)

7. Juma cut out a sector from a circular card board of radius 63cm.



Determine the perimeter of the sector. (Use $\pi = \frac{22}{7}$) (2 mks)

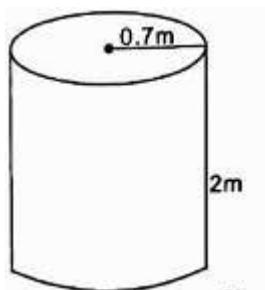
8. During a Creative Arts and Sports lesson, learners made a design as shown below.



Calculate the area of the shaded part of the design. (Use $\pi = \frac{22}{7}$)

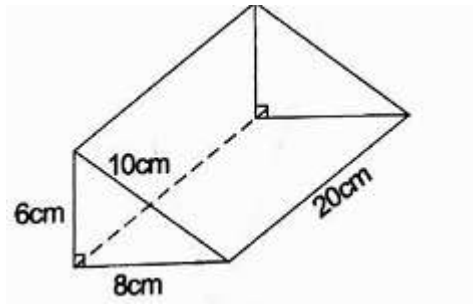
9. a. A brick measures 15cm long, 10cm wide and 8cm high. Determine the total surface area of the brick. (2 mks)

b. Mutwiri constructed a closed cylindrical water tank. The radius of the tank is 0.7m and the height is 2m. He painted the outside surface.



Determine the total surface area painted. (Use $\pi = \frac{22}{7}$)

10. A carpenter constructed the design of a roof as shown.



Determine the surface area of the design. (2 mks)

11. a. A square seedbed measures 1.625 on each side. Use four figure Mathematical table to work out the area of the farm in square metres. (2 mks)

- b. The area of a square design is 0.234m^2 . Use the table of square root to determine the length of one side. (2 mks)

12. A manufacturing company produced 8400 iron sheets in 5 days. Calculate the rate of production per day. (1 mk)
13. Aisha and Juma shared their profit of sh 24000 in the ration of 5:7 respectively. How much money did Juma receive?
(2 mks)
14. Twelve people working at the same rate can complete some work in 16 days. How many more days will 8 people working at the same rate take to complete the same work? (2 mks)
15. The price of a book increased from sh 400 to sh 500. Calculate the percentage increase. (2 mks)

16. Auma deposited sh 300000 in a bank that offered a simple interest rate of 5% per annum. How much was in her account after 2 years? (2 mks)

17. A laptop was valued at sh 100000 when it was bought. The value depreciated at the rate of 105 per year. Determine the value of the laptop after 2 years. (2 mks)

18. A teacher wrote the expression

$$\frac{12ab + 6ac}{6b + 3c}$$

Factorize the expression. (2 mks)

19. Given that $c=4$, $d=5$ and $e= -3$, evaluate. (2 mks)

$$\frac{e+d}{c}$$

20. Using elimination method, evaluate the value of x and y in the equation. (2 mks)

$$4x + y = 9$$

$$3x - y = 5$$

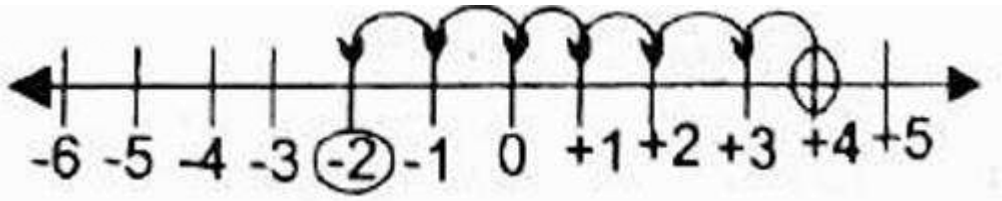
Answers

1. a. 5.20

b. Ten thousandths

2. -5

3.



4. a.

$$\frac{2}{3} - \frac{1}{5} \div \frac{1}{2}$$

$$\frac{2}{3} - \frac{1}{5} \times \frac{2}{1}$$

$$\frac{2}{3} - \frac{2}{5} = \frac{10-6}{15} = \frac{4}{15}$$

b.

$$\text{Food} = \frac{1}{8}, \text{Rent} = \frac{1}{2}$$

$$\text{school fees} = (\frac{1}{2} \times \frac{3}{8}) = \frac{3}{16} \text{ Savings} =$$

$$\frac{1}{8} + \frac{1}{2} + \frac{3}{16} = \frac{13}{16} \text{ Salary saved} = 1 -$$

$$\frac{13}{16}$$

$$= \frac{1}{16} - \frac{13}{16} = \frac{3}{16}$$

5. a.

$$1.96 + 144 \div 2 - 36$$

$$\frac{1.96 + 144 - 36}{2}$$

$$1.96 + 72 - 36$$

$$73.96 - 36 = 37.96$$

b.

$$r = 0.171717 \dots \dots \dots (i)$$

$$10r = 1.71717 \dots \dots \dots (ii)$$

$$100r = 17.1717 \dots \dots \dots (iii)$$

$$(iii) - (i)$$

$$100r = 17.1717$$

$$r = 0.1717$$

$${}^{99}r/{}^{99} = {}^{17}/{}^{99} r$$

$$= 17/99$$

6. a. 4 significant figures

b. 702

c. 7.015×10^{-3}

7. $\theta/360 \ 2\pi r + D$

$$80/360 \times 2 \times 22/7 \times 63 + 126 = 88 + 126 = 214\text{cm}$$

8. $\theta/360 \ \pi^2$

$$120/360 \times 22/7 \times 21 \times 21 = 22 \times 21 = 462\text{cm}^2$$

9. a.

$$15 \times 10 \times 2 = 300$$

$$10 \times 8 \times 2 = 160$$

$$15 \times 8 \times 2 = 240/700\text{cm}^2 \text{ b.}$$

$$\text{Top painted area} = 22/7 \times 0.7 \times 0.7 = 1.54\text{m}^2 \text{ Painted}$$

$$\text{curved SA} = 22/7 \times 1.4 \times 2 = 8.8\text{m}^2 \text{ Bottom painted}$$

$$\text{area} = 22/7 \times 0.7 \times 0.7 = 1.54\text{m}^2 \text{ Total area} = 1.54 + 8.8$$

$$+ 1.54 = 11.88\text{cm}^2$$

10. Area of the triangles = $1/2 \times 8 \times 6 \times 2 = 48\text{cm}^2$

$$\text{Area of the rectangles} = 8 \times 20 = 160\text{cm}^2 \text{ Area of}$$

$$\text{the rectangles} = 20 \times 10 = 200\text{cm}^2 \text{ Area of the}$$

$$\text{rectangle} = 20 \times 6 = 120\text{cm}^2$$

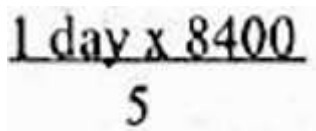
$$\text{Total S.A} = 528\text{cm}^2$$

11. a. $1.625 \times 1.625 = 2.640625\text{m}^2$

$$\text{b. } \sqrt{0.234} = 0.4837\text{m}$$

12. 5 days = 8400

$$1 \text{ day} = ?$$



$$\frac{1 \text{ day} \times 8400}{5}$$

$$= 1680 \text{ sheets per day}$$

13. 24000 - 5:7

$$\text{Aisha} - 5/12$$

$$\text{Juma} = \frac{7}{12}$$

$$\frac{7}{12} \times 24000 = \text{sh } 14000$$

14.

P	D	P	D
12	16	8	?
<u>12 x 16</u>			
8			

$$= 24$$

$$\text{More} = 24 - 16 = 8 \text{ more days}$$

15. Increase = 500 - 400 = sh 100

$$\% \text{ increase} = \frac{\text{Increase}}{\text{Original price}} \times 100$$

$$= \frac{100}{400} \times 100\% = 25\%$$

16. SI = PRT/100

$$= 300000 \times \frac{5}{100} \times 2 = \text{sh } 30000$$

$$\text{Total amount} = 300000 + 30000$$

$$= \text{sh } 330000$$

17. After 1 = 100000 - 100%

$$90\% = \frac{100000 \times 90}{100}$$

$$= 90000$$

After 2 years

$$90000 - 90\%$$

$$80\%$$

$$\frac{90000 \times 80}{90}$$

$$= \text{sh } 80000$$

$$18. \quad \frac{12ab+6ac}{6b+3c} = \frac{6a(2b+c)}{3(2b+c)}$$

$$= \frac{6a}{3} = 2a$$

$$19. \quad \frac{c+d}{c} = \frac{-3+5}{4}$$

$$= \frac{2}{4} = \frac{1}{2}$$

$$20. \quad 3x+4x+y = 9$$

$$4x+3x-y = 5$$

$$12x+3y = 27$$

$$\begin{array}{r} 12x+3y=27 \\ -12x-4y=20 \\ \hline \end{array}$$

$$+ \frac{7y}{7} = \frac{7}{7}$$

$$y = 1$$

