7

2024

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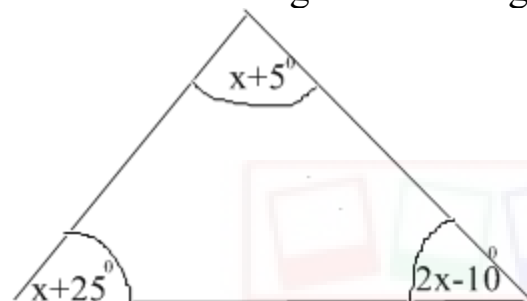# COMPETENCE BASED CURRICULUM
JUNIOR SCHOOL
MATHEMATICS
MARKING SCHEME

1. The interior angles of a triangle are as shown below.

Find the value of x. (2mk)

Solution

Angles in a triangle adds up to 360^0

$(x+5)^0 + (x+25)^o + (2x-10)^0 = 360^0$

$$(x + 5) + (x + 25) + (2x - 10) = 360$$

Open brackets and collect like terms

$$X + x + 2x + 25 + 5 - 10 = 3600$$

Crossing the whole numbers over the other side of the equal sign and changing their signs
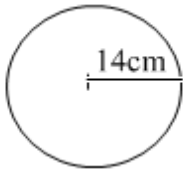
$$X + x + 2x = 360 - 25 - 5 + 10$$

4x=160

Dividing both sides by 4

$$\frac{4x}{4} = \frac{160}{4}$$

$X=40^0$

2. Find the area of the circle drawn (take $= \pi = 22/7$ **(2mk)**

Solution
Area of a circle is given by AREA$=\Pi r^2$
Area= 22/7*14cm*14cm
Area= 616cm^2

3. A cube has a volume of 3.6m3. What is the volume of the cube in cubic centimetres? **(1mk)**

1m=100cm
1m^2=100cm*100cm
1m^3=100cm*100cm*100cm
1m^3=1000000cm^3

If 1m^3=1000000cm^3

3.6m^3 =? cm^3
= **3,600,000cm^3**

4. Convert 72000m2 into hectares. **(2mk)**
1ha=10,000m^2

?ha=72,000m^2

=72ha

5. Express **80** as a product of its **prime factors** using a factor tree.(2 marks)

Ans **2X2X2X2X5**

6. What is the sum of the **GCD** and the **LCM** of **6, 12 and 18**? (3 marks)
   Ans **42**

7. A trader stored milk in three containers of **24 litres, 30 litres and 60 litres**. The milk in each container was then repacked into smaller containers. The amount of milk in each of the small container was the same. What was the capacity of the largest container used to repack the milk? (3 marks) Ans **6 L**

8. Maria bought **$6\frac{2}{3}$** metres of white cloth material and **2 ¾** metres of yellow cloth material to be used in a home science project. How many metres of material did she buy altogether? (3 marks)

Ans **$9\frac{5}{12}$**

9. Work out the following .
   a. **$33\frac{7}{12} + 40\frac{2}{3}$** (2 marks)

Ans **$74\frac{1}{4}$**

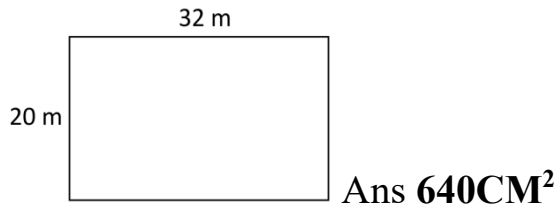   b. **$14\frac{5}{8} - 2\frac{2}{5} - 4$ ½** (3 marks)

Ans **$7\frac{29}{40}$**

10. Work out the following.
    $5\frac{5}{8} \times 24$ (2 marks)

Ans **135**

11. Find the area of the figure below. (2 marks)

32 m

20 m

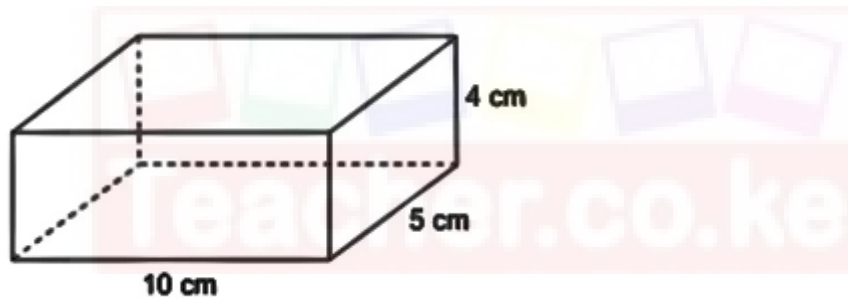Ans **640CM²**

12. Name the angle shown below. (1 mark)

Ans obtuse ANGLE

13. What is 25% written as a fraction in its simplest form? (1 mark)

Ans ¼

14. What is the volume of the cuboid below? (2 marks)

4 cm

5 cm

10 cm

Ans **200CM³**

15. How many days are there in total in the months of November, December and January? (1 mark)

Ans **92 DAYS**

16. Simplify the following expression. (2 mks)
(5(x+4) + 4(2x+5)
Ans 13x+40

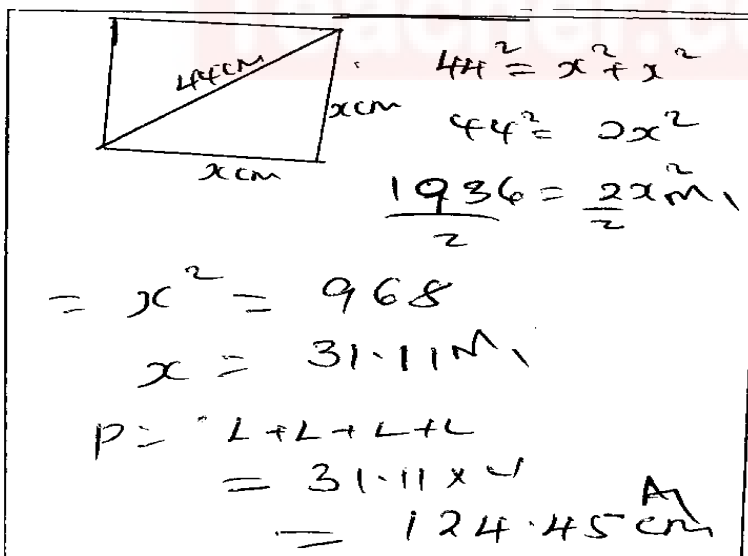17. The perimeter of the figure below is 100cm. what is the length of the longest side?(2mks)

(3x+10) cm

(2x-5) cm

Ans 42cm

18. The diagonal of a square measures 44cm.Calculate the perimeter of the square. (3mrks)

$$44^2 = x^2 + x^2$$

$$44^2 = 2x^2$$

$$\frac{1936}{2} = \frac{2x^2}{2}$$

$$= x^2 = 968$$

$$x = 31.11 M$$

$$P = L + L + L + L$$

$$= 31.11 \times 4$$

$$= 124.45 cm$$

19. Calculate;   (3 mks)

$$\frac{2.61 \times 21.83 \times 0.073}{61.72 \times 11.73}$$

$$\frac{2.61 \times 21.83 \times 0.073}{61.72 \times 11.73} \quad \begin{array}{c} \times 10^7 \\ M_1 \\ \times 10^7 \end{array}$$

$$= 0.00575 \, M$$

20. Patrick spent 2/5 of his salary on food, 1/3 of the remainder on electricity and saved the rest.

 (a).   What   fraction   of   his   salary   did   he   save? (2mrks).

- Food = 2/5
- Electricity = $1 - \frac{2}{5} = \frac{3}{5} \times \frac{1}{3} = \frac{1}{5}$ M₁

savings = $1 - \left\{ \frac{2}{5} + \frac{1}{5} \right\} = \frac{2}{5}$ M₁

$\frac{2}{5} \rightarrow 1200$

$\frac{1}{3} \rightarrow ?$ M₁

(b). If he spent Sh. 1,200 on food, how much did he spend on electricity? (2Mks)

$$\frac{\frac{1}{5} \times 1200}{\frac{2}{5}} = sh. 600 \quad A1$$

21. A farmer has three containers of capacity 12L, 15L and 21L, calculate the capacity of:

a) The smallest container which can be filled by each one of them an exact number of times
(2 Mrks).

L·C·M 8 12, 15 and
21

= 420 B2

22. (b). The largest container which can fill each one of them an exact number of time.(2 Mks)

G·C·D = 12, 11 and 21

B2

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..................*Every learner counts*............