

$$1. \frac{40}{10} = \frac{4}{1} = 4$$

$$2. (\sqrt{m+7})^2 = 4^2 \\ m+7 = 4 \times 4 \\ m+7 = 16 \\ m+7-7 = 16-7 \\ m = 9$$

$$3. (3 \times \frac{1}{10}) + (8 \times 10) = 0.3 + 80 = 80.3$$

$$5. p + 70^\circ = 180^\circ \\ p + 70^\circ - 70^\circ = 180^\circ - 70^\circ \\ p = 110^\circ$$

$$6. \sqrt{V} = S^3 \\ \text{Capacity} = \frac{10\text{cm} \times 10\text{cm} \times 10\text{cm}}{100\text{cm}^3} = 1 \text{ litre.}$$

$$7. 17, 12, 8, 5, 3, 2 \\ 17-5=12 \quad 8. 90-(y+40^\circ)=30^\circ \\ 12-4=8 \quad 90^\circ-y-40^\circ=30^\circ \\ 8-3=5 \quad 50^\circ-y=30^\circ \\ 5-2=3 \quad y=20^\circ \\ 3-1=2$$

$$9. S.P = B.P. + \text{Profit} \\ = \text{Shs}60,000 + \text{Shs}7,200 \\ = \text{Shs}67,200$$

$$10. 1 \text{ trip} = 59 \text{ passengers} \\ 12 \text{ trips} = (12 \times 59)_{\text{passengers}} \\ = 708 \text{ passengers}$$

$$11. 2 + 5 \text{ (finite 6)} \\ = 7 \text{ (finite 6)} \\ 7 \div 6 = 1 \text{ rem. } 1 \\ = 1 \text{ (finite 6)}$$

rainfall	0	2	3	4	5	6
freq	1	1	2	1	1	1

$$\text{Mode} = 3$$

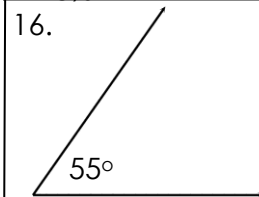
$$13. A = \pi r^2 \\ = \frac{22}{7} \times 7\text{cm} \times 7\text{cm} \\ = 154\text{cm}^2$$

$$14. 1 \text{ doz} = 12 \text{ cups} \\ 1\frac{1}{2} \text{ dozens} = 12 + 6 = 18 \text{ cups} \\ 6 \text{ cups cost Shs}3,000 \\ 1 \text{ cup will cost } \frac{\text{Shs}3,000 \times 18}{6} \\ = \text{Shs}9,000$$

$$15. 1 - \frac{3}{4} \\ = \frac{1}{4}$$

Percentage failure

$$= \frac{1}{4} \times 100\% \\ = 25\%$$



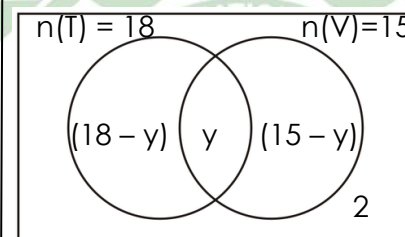
$$17. 6 \text{ twenty thousand} \\ = 6 \times \text{Shs}20,000 \\ = \text{Shs}120,000$$

18. Distributive Property

$$19. \text{Jane's age} \\ = 7 + 4 \\ = 11 \text{ years}$$

$$20. 2 \text{ five-fives and } 3 \text{ fifths} \\ = (2 \times 5 \times 5) + \frac{1}{5} \\ = 50\frac{3}{5}$$

$$21a). n(\Sigma) = 30$$



$$b). 18 - y + y + 15 - y + 2 = 30 \\ 18 + 15 + 2 - y = 30 \\ 30 - y = 30 \\ 35 - 30 = y \\ y = 5$$

22. The largest counting number being **m**

$$\text{Middle number} = m - 1, \\ \text{Smallest number} = m - 2 \\ m + m - 1 + m - 2 = 18 \\ 3m + 3 + 3 = 18 + 3 \\ \frac{3m}{3} = \frac{21}{3} \\ m = 7$$

$$\text{The smallest number} = m - 2 \\ = 7 - 2$$

$$\text{So, the smallest number} = 5$$

$$23a). L \times W \times H = V \\ 20\text{cm} \times p \times 8\text{cm} = 480\text{cm}^3 \\ \frac{160p}{160} = \frac{480\text{cm}^3}{160}$$

$$P = 3\text{cm.}$$

$$b). \text{Base area} \\ = L \times W \\ = 20\text{cm} \times 3\text{cm} \\ = 60\text{cm}^2$$

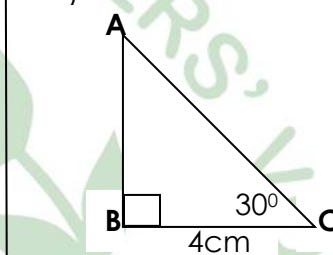
$$24a). \text{No. of girls} \\ = \frac{3}{5} \times 60 \\ = 33 \text{ girls.}$$

$$b). \text{No. of boys} \\ = 60 - 36 \\ = 24 \text{ boys}$$

Difference in number

$$= 60 - 24 \\ = 12 \text{ more girls than boys.}$$

25a) sketch



Accurate diagram:
Must bear, all the information
with accurate measurements.

$$b). \underline{AC = 4.6 \text{ cm}}$$

$$26. \text{Let Harrison's age be } h \\ \text{Alinda's age} = h + 5 \\ h + h + 5 = 37 \\ 2h + 5 = 37 \\ 2h + 5 - 5 = 37 - 5 \\ \frac{2h}{2} = \frac{32}{2} \\ h = 16$$

Alinda's age in 15 years time.

$$= h + 15 \\ = 16 + 15 \\ = 31 \text{ years.}$$

$$27. \text{Value of 6 in } 39462 \\ = 3 \times 10,000 \\ = 30,000$$

$$\text{Value of 6 in } 39462 \\ = 6 \times 10 \\ = 60 \\ \text{Product} = 30,000 \times 60 \\ = 1,800,000$$

$$28a). \underline{-2 + 5 = +3}$$

$$b). \text{Wednesday} = 3 \\ = 3 - 32 \text{ (finite 7)}$$

But $32 \div 7$ 4 rem. 4

$3 - 4$ (finite 7)

$= (3 + 7) - 4$ (finite 7)

$= 10 - 4$ (finite)

$= 6$ (finite 7)

The day was Saturday.

29.a). $48 \text{ months} = 48 \div 12$

$= 4 \text{ years}$

$P \times R \times T$

$= \text{Shs}300,000 \times \frac{5}{1000} \times 4$

$= \text{Shs}60,000$

b). Amount

$= \text{principal} + \text{interest}$

$= \text{Shs}300,000 + \text{Shs}60,000$

$= \text{Shs}360,000$

30a). Let the sector angle for failures be p .

$p + 120^\circ + 150^\circ + 60^\circ = 360^\circ$

$p + 330^\circ = 360^\circ$

$p + 330^\circ - 330^\circ = 360^\circ - 330^\circ$

$p = 30^\circ$

b). Number of candidates who passed in division one.

$= \frac{60^\circ}{360^\circ} \times 72$

$= 12 \text{ candidates.}$

c). Difference in angles

$= 150^\circ - 120^\circ$

$= 30^\circ$

Difference in No. of candidates

$= \frac{30^\circ}{360^\circ} \times 72$

$= 6$

$= 6 \text{ more candidates in Div. 1 than Div. 3}$

31a). $1 \text{ km} = 1000 \text{ m}$

$36 \text{ km} = 36 \times 1000 \text{ m}$

$= 36,000 \text{ m}$

$1 \text{ hr} = 3600 \text{ seconds}$

In m/s $= \frac{36,000 \text{ m}}{3600 \text{ seconds}}$

$= 10 \text{ m/s}$

b). Time taken

$11:00_{\text{am}}$

$- 9:00_{\text{am}}$

$2:00$

Time taken = 2 hours.

Average speed

$= \frac{200 \text{ km}}{2 \text{ hrs}}$

$= 100 \text{ km/hr}$

$= \frac{100 \text{ km}}{\text{hr}}$

32a). $\frac{253}{23} = 11$

23

b). $3456 \div 10 = 345.6$

$345.6 \div 10 = 34.56$

$34.56 \div 10 = 3.456$

4.356×10^3

Code – RM 21

