THE REAL PRIVATE TEACHER GUIDES MTC NEXT TO PLE –7 2022

1. 142
3|426
1X3= 3 ↓
12
4X3= 12
06
2X3= 06
00

2. 7m – 3n – 3m – 2n
7m – 3m – 2n – 3n
4m – 5n

3. 478. ~~96~~
+ 1.0
479

4. XC = 90
IV = +4
XCIV = 94

5. F = {w, a, t, e, r }
n(w) = 5

6. 1342 = One thousand forty

7. 81, 27, 9, 3, 1
81 ÷ 3 = 27
27 ÷ 3 = 9
9 ÷ 3 = 3
3 ÷ 3 = 1

8. 75km ÷ $1\frac{1}{2}$hrs
75km ÷ $\frac{3}{2}$hrs
75km x $\frac{2}{3}$hrs
150km
3hrs
50km/hr

9. 111_{two}
+ 11_{two}
1010_{two}

10. $\frac{3k + 13 + 5k + 7}{4}$
$\frac{3k + 5k + 13 + 7}{4}$
$\frac{8k + 20}{4}$
$\frac{8k}{4} + \frac{20}{4}$
2k + 5

11. $\frac{1}{2} + \frac{1}{4} = \frac{2 - 1}{4}$
$= \frac{1}{4}$

12. 10 : 00am
- 7 : 30am
2 : 30

13. Shs32,000
+ Shs8,000
Shs40,000

14. 15 rep. 1 box
60 rep. (60 ÷ 15)box
60 rep. 4boxes

15. $C = 2\pi r$
$C = 2 \times 22 \times \frac{14^2}{7}$cm
$C = 2 \times 22 \times 2$cm
C = 88cm.

16. 1 – 4 = ------ (finite 5)
5 + 1 – 4 = ----- (finite 5)
6 – 4 = 2 (finite 5)
1 – 4 = 2 (finite 5)

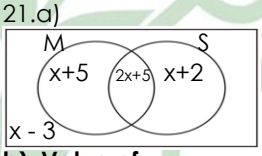
17. New x number
Old
5 x ~~600~~200kg
~~3~~1
5 x 200kg
1000kg

18. 4 women take 10 days
1 woman takes 4 x 10days
1 woman takes 40days
8 women take 40 ÷ 8days
8 women take 5days.

19. $k + 90^0 + 55^0 = 180^0$
$k + 145^0 = 180^0$
$k + 145^0 - 145^0 = 180^0 - 145^0$
$k = 45^0$

20. SI = P x R x T
= Shs400,~~000~~ x $\frac{20}{100}$ x 3
= Shs4,000 x 20 x 3
= Shs240,000

21.a)



b). Value of x
X + 5 + x – 3 = 18
X + x + 5 – 3 = 18
2x + 2 = 18
2x + 2 – 2 = 18 – 2
2x = 18 – 2
$\frac{2x}{2} = \frac{16}{2}$
x = 8

c). n(M) = x +5 +2x + 5
= 8 + 5 + 2 x 8 + 5
= 13 + 16 + 5
= 34

22(a). $\frac{2.4 \times 0.9}{0.12}$
$\frac{24}{100} \times \frac{9}{10} \div \frac{12}{100}$
$\frac{24^2}{100} \times \frac{9}{10} \times \frac{100}{12_1}$
$\frac{2 \times 9 \times 1}{1 \times 10 \times 1}$
$\frac{18}{10} = 1.8$

b). $\frac{3}{4} - \frac{3}{4} \times \frac{1}{2}$
$\frac{3}{4} - \frac{3}{8}$
$\frac{6}{8} - \frac{3}{8} = \frac{3}{8}$

23.

Item	QTY	UNIT COST	AMOUNT
Rice	2kg	Shs35,000 per kg	**Shs7,000**
Sugar	$1\frac{1}{2}$kg	**Shs4,000 per kg**	Shs6,000
Meat	**3kg**	Shs12,000 per kg	Shs36,000
Total			**Shs49,000**

Rice	**Sugar**
Shs3,500x2	Shs6,000÷$1\frac{1}{2}$
Shs7,000	Shs4,000

Meat
~~Shs36000~~3
~~Shs12000~~
3kg

Total expenditure
Shs36,000
Shs7,000
+Shs6,000
Shs49,000

24a). Food = $\frac{1}{3}$
Rent = $\frac{1}{4}$
Total fraction
Food + rent
$\frac{1}{3} + \frac{1}{4}$
$\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$
Fraction left = $\frac{12}{12} - \frac{7}{12}$
$= \frac{5}{12}$

b). **Amount spent on food**
$\frac{7}{12}$ x Shs~~72000~~6000
7 x Shs6000
Shs18,000

c). **Amount spent on rent**
$\frac{1}{4}$ x Shs~~72000~~18000
1 x Shs18,000 = Shs18,000

25.a). **Sum of items**
4 x 6 = 24
(k+1)+2k+(3k+5)+(k-3) = 24
k+1+2k+ 3k + 5 + k – 3 = 24
k+2k+3k+k+1+5-3 = 24
7k+6-3 = 24
7k + 3 = 24
7k + 3 – 3 = 24 – 3
7k = 21
$\frac{7k}{7} = \frac{21}{7}$
k = 3

b). (k + 1), 2k, (3k + 5) (k – 3)
3 + 1 2 x 3 (3x3+5) (3 – 3)
4, 6, (9 + 5), 0
4, 6, 14, 0
Range = H – L
= 14 – 0
= 14

26.a). Let the 2nd number be **n**
16 x n = 48 x 4
$\frac{16n}{16} = \frac{48^3 \times 4}{16}$
n = 3 x 4
n = 12

b). 2|8|6 2 x 2 x 2 x 3
2|4|3 4 x 6
2|2|3 24
3|1|3 24 + 2
1|1 26

27.a). **1st Drive**
D = S x T
= 60km/hr x $2\frac{1}{2}$hrs
= $\frac{60^{30}}{1}$km x $\frac{5\text{hrs}}{2}$
= 30km x 5 = 150km

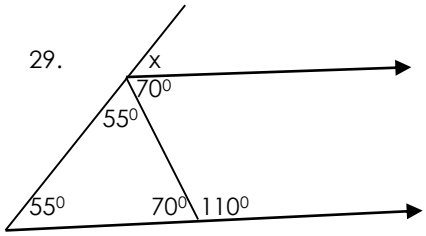
b). **return time**
T = D ÷ S
T = $\frac{150\text{km}}{75\text{km/hr}}$
T = 2hrs
Av. Speed = $\frac{150\text{km} + 150\text{km}}{2\frac{1}{2}\text{hrs} + 2\text{hrs}}$
= 300km ÷ $4\frac{1}{2}$hrs
= 300km ÷ $\frac{9}{2}$hrs
= 300km x $\frac{2}{9}$hrs
= $\frac{600\text{km}}{9\text{hrs}}$
= $66\frac{2}{3}$km/hr

28. Let Doris' share be **y**

Doris	Pauline	Robson	Total
y	2y	3y	Shs 360,000

y + 2y + 3y = Shs360,000
6y = Shs360,000
$\frac{6y}{6} = \frac{\text{Shs360,000}}{6}$
y = Shs60,000
Doris got y = Shs60,000
Pauline got 2 x y
= 2 x Shs60,000
= Shs120,000
Robson got 3 x k
= 3 x Shs60,000
= Shs180,0000

29.



Value of x

$x + 70^0 + 55^0 = 180^0$

$x + 125^0 = 180^0$

$x + 125^0 - 125^0 = 180^0 - 125^0$

$x = 55^0$

30. Let the son's age be **y**.

Time	Son	Obadia	Total
Now	x	x + 20	
10years	x + 10	x + 20 +10	70

$x + 10 + x + 20 + 10 = 70$

$x + x + 10 + 20 + 10 = 70$

$2x + 40 = 70$

$2x + 40 - 40 = 70 - 40$

$\frac{2x}{2} = \frac{30}{2}$

$x = 15$

The son is **x** = 15 years

Obadia is **x** + 20

15 + 20 = 35years

31. **Area of a rectangle**

A = L x W

= 20cm x 14cm

= $280cm^2$

Area of two semi – circles

$A = {}^1/_2\ \pi r^2$

$= \frac{1}{2} \times \frac{22}{7}^{11} \times 7cm \times 7cm$

$= 1 \times 11 \times 7cm \times 1cm$

= $77cm^2$

Area of the shaded part

$280cm^2$

$- 77cm^2$

$103cm^2$