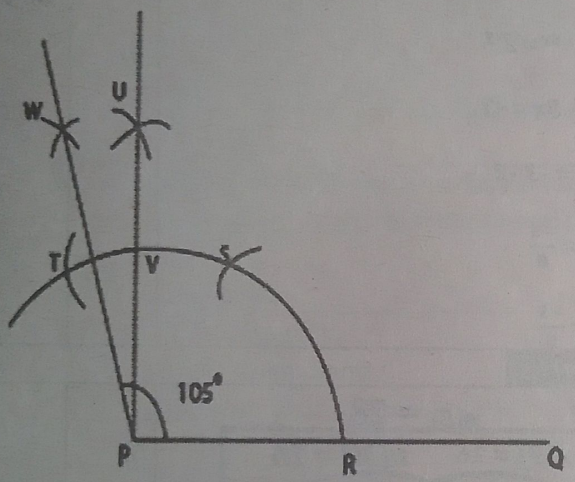
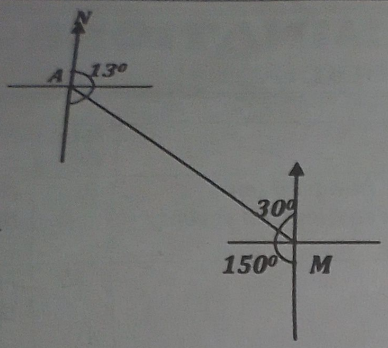
THE PRIME MAGIC SET IV EXAMINATIONS 2024

P.7 MATHEMATICS MARKING GUIDE

SECTION A (40 MARKS)

NO	SOLUTION	MARKS	COMMENT
1	4 9 6 + 2 3 5 1 9	M_1 A_1	Follow through
2	110372: One hundred ten thousand three hundred seventy two	B_2	Follow through
3	M = {⑥ ⑤ ⑦ 8,9,10,11} N = {1, 2, 3, 4, ⑤ ⑥ ⑦} (M ∪ N) = {1, 2, 3, 4, 5, 6, 7,8, 9,10, 11} n(M ∪ N) = 11	M_1 A_1	Follow through
4	$1\frac{2}{7} \times \frac{4}{5}$ $\frac{9}{7} \times \frac{4}{5}$ $\frac{36}{35}$ $1\frac{1}{35}$	M_1 A_1	Follow through
5	3 x (-4y) (+ 5x) (-7y) 3x + 5x – 4y – 7y 8x – 11y	M_1 A_1	Follow through
6	576, 36, 4, 1, 1 ÷ 36 ÷ 9 ÷ 4 ÷ 1	M_1 A_1	Follow through
7			
8	$\frac{sh\ 7500}{3} \times 7$ Sh 2500 x 7 Sh 17500	M_1 A_1	Follow through
9	0.907kg 1kg = 1000gm $0.907kg = \frac{907}{1000} \times 1000$ = 907gm	M_1 A_1	Follow through
10	4 1 4 five - 3 4 3 five 0 2 1 five (5+1) = 6	M_1 A_1	Follow through
11	ab – c (-3 x 3) – 2 -9 – 2 - 11	M_1 A_1	Follow through
12	Days – Days = ____ finite 7 1 – 35 = __finite 7 35 ÷ 7 = 5 rem 0 1 – 0 = 1 finite 7 It was Monday.	B_1 B_1	Follow through
13	679.3 6.793×10^2	B_2	Follow through
14	$(4 - 2\frac{1}{2})$hr $1\frac{1}{2}$ hr	M_1 A_1	Follow through
15			
16	D = S x T $D = (84 \times \frac{7}{2})$km D = (42 x 7)km D = 294km	M_1 A_1	Follow through



$360^0 - 30^0$

$\underline{330^0}$

17	$360^0-(30^0+80^0+50^0+90^0)$ $360^0 - 250^0$ $\underline{= 110^0}$	M_1 A_1	Follow through	18	14 30hr 14 30 $\underline{-12\ 00}$ $\underline{2\ 30pm}$	M_1 A_1	Follow through
19	Sh 800000 x $\frac{15}{100}$ x $\frac{24}{12}$ Sh 8000 x 15 x 2 Sh 8000 x 30 $\underline{Sh\ 240000}$	M_1 A_1	Follow through	20	$2^2 \times 2^{8x} = 2^{-3}$ $2^{2+8x} = 2^{-3}$ $2 + 8x = -3$ $8x = -3 - 2$ $\frac{8x}{8} = \frac{-5}{8}$ $x = \frac{-5}{8}$	M_1 A_1	Follow through

SECTION B (60 Marks)

21 (a) 4 0 7 2 5

└Thousands = 0 x 1000

$\underline{= 0}$

(b) 4 0 7 2 5

└(7 x 100) = 700

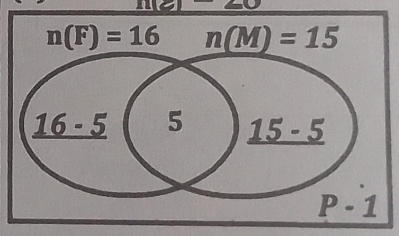
└4 x 10000 = 40000

40000

$\underline{-\ 700}$

$\underline{39300}$ 04

22 (a)



B_1 B_1 B_1 M_1

(b) $11 + 5 + 10 + p - 1 = 28$

$16 + 9 + p = 28$

$25 + p = 28$

$P = 28 - 25$

$P = 3$

$P = 3 - 1$

$P = 2$

A_1 B_1 06

23 (a)

$\underline{Meat}$

Sh 12000 x 3

$\underline{Sh\ 36000}$

$\underline{Rice}$

$\frac{5}{2}$ x sh $\cancel{4000}^{2000}$

$\underline{sh\ 10000}$

$\underline{Beans}$

$\frac{500}{\cancel{1000}}$ x sh 3000

$\underline{sh\ 1500}$

$\underline{Cooking\ soil}$

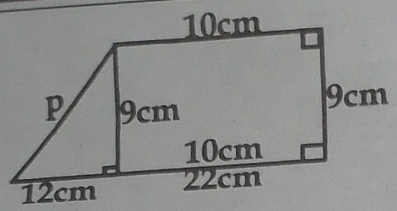
sh 14000

sh 36000
sh 14000
sh 10000
+ sh 1500
$\underline{Sh\ 61500}$

(b) sh 20000 x 4
$\underline{Sh\ 80000}$
sh 80000
$\underline{-\ sh\ 61500}$
$\underline{Sh\ 18500}$

15

24



(a) $P^2 = (12cm)^2 + (9cm)^2$

$P^2 = 144cm^2 + 81cm^2$

$\sqrt{P^2} = \sqrt{225cm^2}$

$P = 15cm$

(b) $P = (10cm + 9cm + 22cm + 15cm)$

$P = 56cm$

(c) $A = \frac{1}{2} \times h\,(a + b)$

$A = \frac{1}{2} \times 9cm\ (10cm + 22cm)$

$A = \frac{1}{2} \times 9cm\ (32cm^{16})$

$A = 9cm \times 16cm$

$A = 144cm^2$

05

25 (a) $\frac{0.096 \times 0.12}{0.08 \times 0.6}$

$(\frac{96}{1000} \times \frac{12}{100}) \div (\frac{8}{100} \times \frac{6}{10})$

$(\frac{96}{1000} \times \frac{12}{100}) \times (\frac{100}{8} \times \frac{10}{6})$

$\frac{24}{1000}$

$= 0.024$

(b) $\frac{8}{9} \div \frac{1}{2} \times \frac{2}{3}$

$\frac{8}{9} \div \frac{1}{3}$

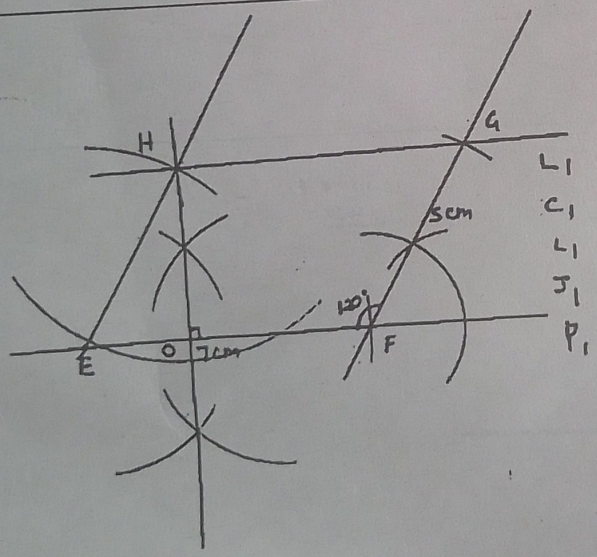
$\frac{8}{9} \times \frac{3}{1}$

$\frac{8}{3}$

$2\frac{2}{3}$

06

26



05

27 (a) 12 30pm

(b) 1 6 00
- 6 00
10 00hr

(c)

Hrs	Min	Hrs	Mins	Hrs	Mins
10	30	13	45	15	00
- 10	00	- 12	30	- 14	45
	30	1	15		15

30mins + 15mins + 15mins+ 1hr

60mins + 1hr

1hr + 1hr

= 2 hourss

05

28 (a) sh 1440000 / 3200 = sh 1440000 / 3200 = Ksh 450

(b) 2800 x 3600 / 3200 = 10080000 / 3200 = Ksh 3150 **05**

29

2	108	208	560
2	54	104	280
	27	52	140

2 x 2 = 4

(b) 560 / 4 = 140 pieces **04**

30 (a) $\frac{y+7+y+9+17+19+25-y+11+y}{6} = 16$

$\frac{7+9+17+19+25+11+2y}{6} = 16$

$\frac{88+2y}{6} = 16$

$88 + 2y = (16 \times 6)$

$88 + 2y = 96$

$2y = 96 - 88$

$\frac{2y}{2} = \frac{8}{2}$

$y = 4$

(b)

y + 7	y + 9	17	19	25 – y	11 + y
4 + 7	4 + 9			25 – 4	11 + 4
11	13			21	15

~~11~~, ~~13~~, 15, 17, ~~19~~, ~~21~~

$\frac{15+17}{2} = \frac{32}{2} = 16$ **05**

31

Matope	Nkaissery	Total	Sen	Total
r	r + 20	2r + 20	2r + 20 – 15	85
			2r + 5	

(b) r + r + 20 + 2r + 5 = 85

4r + 25 = 85

4r = 85 – 25

$\frac{4r}{4} = \frac{60}{4}$

r = 15

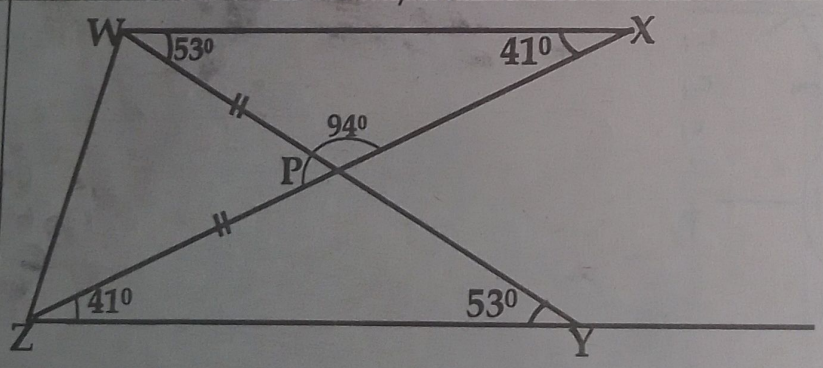
Sen

2r + 5

(2 x 15) +5

35 cows **05**

32



(a) P = 180⁰ - 94⁰

P = 86⁰

(b) ZWX

$\frac{180^0 - 86^0}{2}$

$\frac{94^0}{21}$

47^0

ZWX = 47⁰ + 53⁰

= 100⁰

53⁰ + 41⁰

= 94⁰ **05**