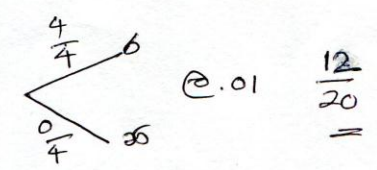
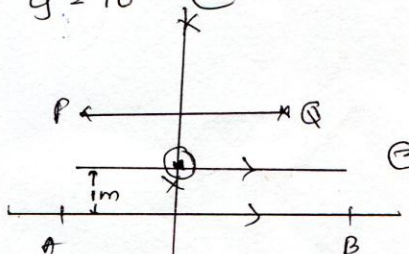


අවසාන වර්ග පරීක්ෂණය
 ගණිතය
 II ශ්‍රේණිය

U

I ප්‍රශ්න - A කොටස.

- ① 5000 - e.02.
- ② 3x - e.02
- ③ 40° - e.02
- ④ 8 - e.02.
- ⑤ $\frac{2x+4}{x+2}$ - e.01 හෝ 2 e.02
- ⑥ 80° - e.02
- ⑦ $4x = 20$ e.01 හෝ x=5 e.02
- ⑧ 3 e.02
- ⑨ $\frac{1}{\sqrt{5}}$ e.02
- ⑩ x=1 e.02
- ⑪ $1540 \text{ ml} = 1540 \text{ cm}^3$ - e.01
 $\frac{1540}{10} = \underline{154 \text{ cm}^2}$ - e.01
- ⑫ $x \leq 4$ - e.02
- ⑬ 40° - e.02
- ⑭ $\frac{1}{4} \times \frac{22}{7} \times 14 \times 14 = 154 \text{ cm}^2$
 $\frac{1}{2} \times \frac{22}{7} \times 7 \times 7 = 77 \text{ cm}^2$ e.01
 $154 - 77 = \underline{77 \text{ cm}^2}$ e.01

- ⑮ $x = 1$ e.02
- ⑯ $\frac{8}{\frac{1}{3}} = \underline{24 \text{ kmh}^{-1}}$ e
- ⑰ $P = \underline{5}$
 $Y = \underline{3}$ e.02.
- ⑱ 40° e.02
- ⑲ $\frac{0.2}{1.4} = \frac{1}{7}$ e.02.
- ⑳  e.01 $\frac{12}{20}$
- ㉑ 80° e.02
- ㉒ $48 + \frac{120}{40}$ e.01
51 e.01
- ㉓ $x = 80°$ - e.01
 $y = 70°$ - e.01
- ㉔  e
- ㉕ 12 - e.02.

I മാറ്റ - B ശാഖ

2

1) (i) $\frac{5}{7} = 0.02$

(ii) $\frac{2}{7} + \frac{15}{28} = \frac{23}{28} = 0.01$

(iii) $\frac{5}{7} \times \frac{3}{4} = 0.01$
 $\frac{15}{28} = 0.01$

$\frac{28}{28} - \frac{23}{28} = \frac{5}{28} = 0.01$
 $\frac{5}{28} \times 3 = \frac{15}{28} = 0.01$

(iv) $\frac{15}{28} = 90$
 0.01

$\frac{1}{28} = 6$
 0.01

$\frac{28}{28} = 6 \times 28 = 168$
 0.01

2) (i) $2 \times \frac{22}{7} \times 7 = 44 \text{ cm}$ 0.01

$44 + 44 + 28 + 28 = 144 \text{ cm}$ 0.02

(ii) $28 \times 4 = 112$ 0.01

$112 : 144$
 $7 : 9$ 0.01

(iii) $28 \times 28 = 784 \text{ cm}^2$ 0.02

(iv) $\frac{84}{42} = 2$ $\frac{84}{28} = 3$ $2 \times 3 = 6$ 0.03

3) (i) f കിലോ
 1

കുറച്ചിലിന്റെ ശതമാനം
 13
 20

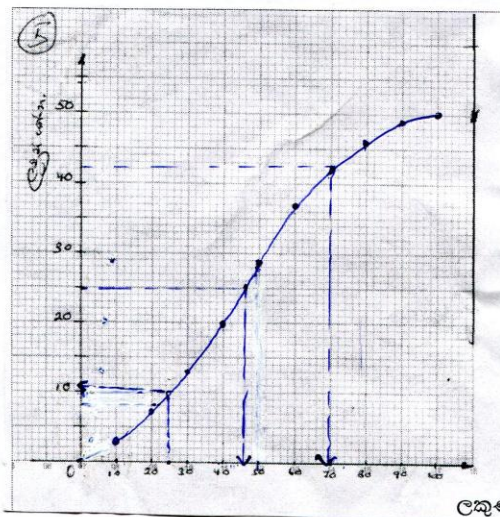
(ii) 46 - 0.01

(iv) 70 - 0.01

മൂല്യം കൂട്ടുകിട
 0.01

(v) 11 ന്റെ 12 - 0.02

(ii)

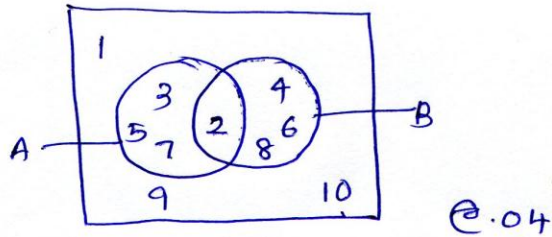


0 മുതൽ

3

4

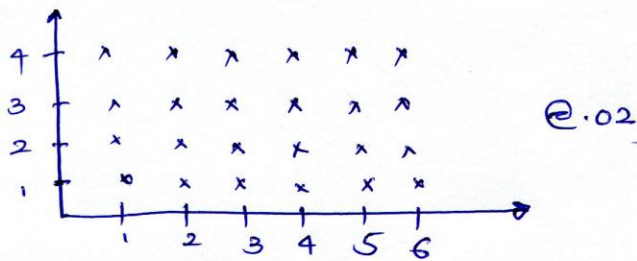
(a)



@.04

(i) $n(B) = 4$ @.01

(b) (i)



@.02

(ii) $\frac{5}{24}$ @.02

(iii) $\frac{4}{24}$ or $\frac{1}{6}$ @.01

5

(a) (i) $80\,000 \times \frac{8}{100} = \underline{\underline{6400}}$ @.01 @.02

(ii) $\frac{6400}{4} = \underline{\underline{1600}}$ @.02

(b) (i) $\frac{100}{8} \times 8000 = \underline{\underline{100\,000}}$ @.01 @.02

(ii) $100\,000 - 80\,000 = 20\,000$ @.01

$\frac{20\,000}{80\,000} \times 100 = \underline{\underline{25\%}}$ @.01

II ଅସ୍ତ୍ରକ - A ଲାଭ

(4)

① (i) $\frac{12}{100} \times 120\,000 \times 2 = \text{₹. } \underline{\underline{28\,800}}$ - @.02

(ii) ଲାଭର ଲାଭ $\frac{120\,000}{20} = 6000$ - @.01

$6000 \times 1.5 \times 2 = \text{₹. } \underline{\underline{18\,000}}$ - @.02

(iii) $28\,800 + 7200 = \text{₹. } 36\,000$ - @.01

$36\,000 - 18\,000 = \text{₹. } 18\,000$

$\frac{18\,000}{6000} = 3$ $20 + 3 = \underline{\underline{23}}$ - @.02

(iv) $\frac{36\,000}{120\,000} \times 100 = \underline{\underline{30\%}}$ @.02

② (i) $y = 1$ @.01

(ii) ଅଧିକତମ ସୁଧ ହାର ନିର୍ଦ୍ଧାରଣ - @.01

ଅଧିକତମ ମୂଲ୍ୟ ହାର ନିର୍ଦ୍ଧାରଣ - @.01

ସ୍ୱତନ୍ତ୍ର ସୁଧ ହାର - @.01

(iii) $x \geq 4.5$ or $x \leq -0.4$

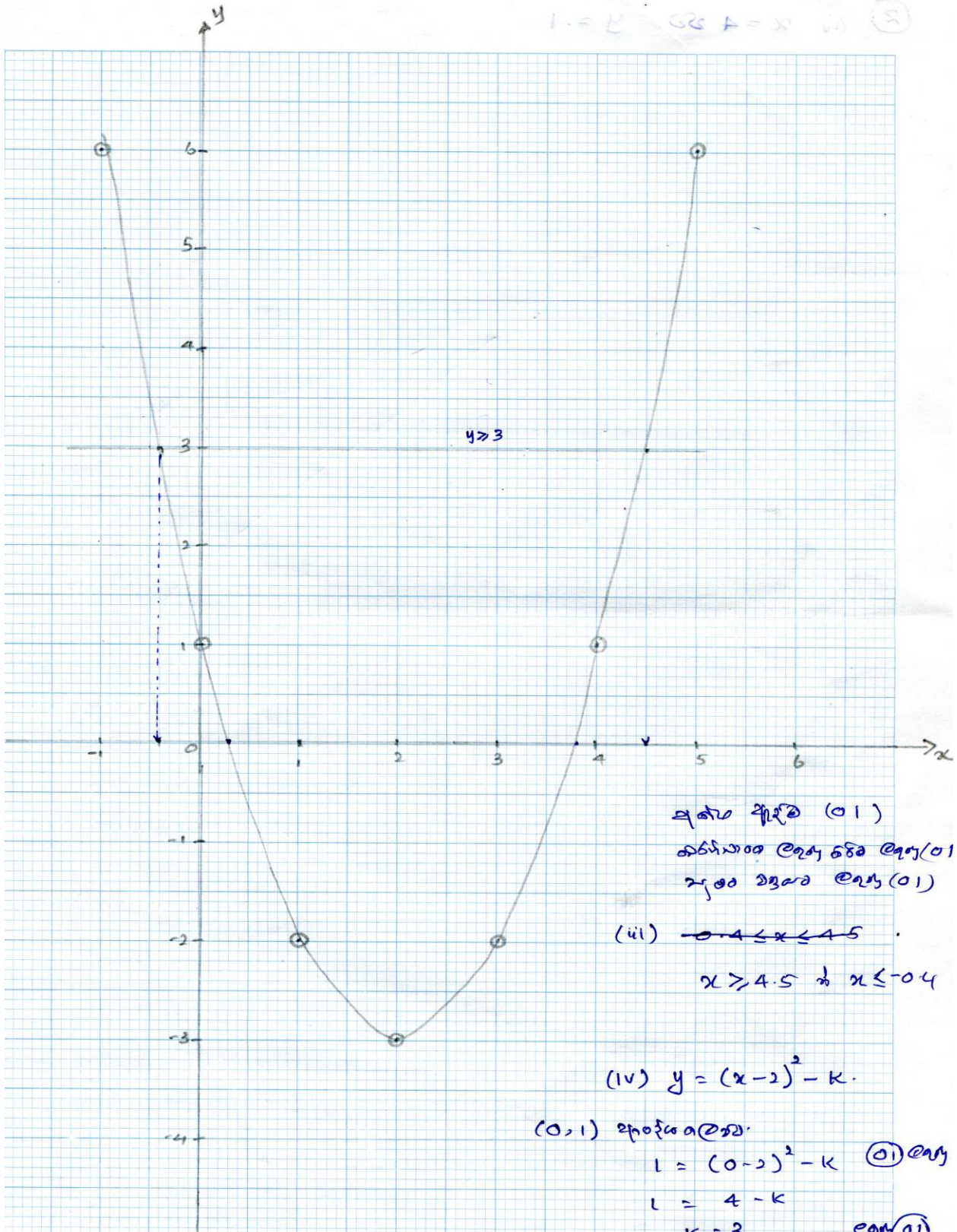
(iv) $k = 3$

(v) $\sqrt{3} = -1.7$ or 1.8

(2)

(i) $x = 4$ යන y හි අගය 1 වේ. $(0, 1)$ (4i)

$1 = (x-2)^2 - k$ (3)



අනෙකුත් අගය (0, 1)
 අන්තරාසාදන ලදී. $(0, 1)$
 අගය 3 වන ලදී. $(0, 1)$

(ii) $-0.4 \leq x \leq 4.5$
 $x \geq 4.5$ හි $x \leq -0.4$

(iv) $y = (x-2)^2 - k$

(0, 1) අගයයන්
 $1 = (0-2)^2 - k$ (01) ලදී
 $1 = 4 - k$
 $k = 3$ ලදී (01)

$0 = (x-2)^2 - 3$
 $3 = (x-2)^2$
 $\sqrt{3} = (x-2)$

$x = 0.3$ අගයයන් (v) $y = 0$. x හි අගය
 $\sqrt{3} = 0.3 - 2$ ලදී (01) $x = 0.3$ හෝ $x = 3.8$ වේ.
 $\sqrt{3} = -1.7$ හෝ $\sqrt{3} = 3.8 - 2 = 1.8$ ලදී (01)

5

3) $2x = 3y$ - 0.01

(a) $\frac{x}{3} + \frac{y}{2} = 40$ - 0.01

$2x + 3y = 240$ - 0.01

$2x - 3y = 0$ - 0.01

$x = 60$ - 0.01

$y = 40$ - 0.01

(b) $\begin{pmatrix} 7 & -3 \\ 1 & 6 \end{pmatrix}$

0.04

4) (i) නිරවද්‍ය නිවැරදිකම - 0.04

R හි P හි දිශාකෝණ 270° - 0.01

(ii) 97 km - 0.01

(a) (i) $\tan 50^\circ 10' = \frac{AB}{15}$ - 0.01

$AB = 18 \text{ m}$ - 0.01

(ii) $\tan \theta = \frac{14}{15} = 0.9333$ - 0.01

$\theta = 43^\circ 1'$ - 0.01

5) (i) 86 - 90

(ii)

(i)	(x)	(f)	fx
71-75	73	1	73
76-80	78	6	468
81-85	83	8	664
86-90	88	10	880
91-95	93	3	279
96-100	98	2	196

අවසර - 0.01 $\Sigma fx = 2560$

fx නිවැරදි - 0.01

මධ්‍යන්‍ය = $\frac{\Sigma fx}{\Sigma f} = \frac{2560}{30}$ - 0.01

= 85.3 - 0.01

= 85 - 0.01

(iii) $85 \times 25 \times 3 = 6375$ - 0.01

$6375 < 6630$

නිවැරදි - 0.01

(iv) $\frac{6630}{85 \times 3} = 26$ - 0.01

නිවැරදි 26 - 0.01

6

6

$$AO = \frac{4x+4}{2} = (2x+2) \text{ e.o.}$$

$$OB = \frac{2x+6}{2} = (x+3) \text{ e.o.}$$

$$AOB \Delta \text{ ඌ ອ. ອ. } = \frac{1}{2} \times (2x+2) \times (x+3) \text{ e.o.}$$

$$24 = (x+1)(x+3) \text{ e.o.}$$

$$24 = x^2 + 4x + 3$$

$$0 = x^2 + 4x - 21 \text{ e.o.}$$

$$0 = (x+7)(x-3)$$

$$(x+7) = 0 \text{ ຫຼື } (x-3) = 0 \text{ e.o.}$$

$x = -7$ ບໍ່ສາມາດໃຊ້ໄດ້. (ຊົ່ວໂທດ ມາດຕະ.)

$$\underline{x = 3}$$

$$AO = 8 \text{ cm. e.o.}$$

$$OB = 6 \text{ cm e.o.}$$

$$AB = \sqrt{8^2 + 6^2} = 10 \text{ cm e.o.}$$

$$ABCD \text{ ບ່ອນສະຫຼັບ ຂັ້ນສູງ } = 10 \times 4 = \underline{40 \text{ cm}} \text{ e.o.}$$

II ສາມາດ - B ສາມາດ

7

(i) 100, 150, 200, 250 - - - e.o.

$$S_n = \frac{n}{2} \{ 2a + (n-1)d \} \text{ e.o.}$$

$$S_{10} = \frac{10}{2} \{ 200 + 9 \times 50 \} \text{ e.o.}$$

$$S_{10} = \underline{3250} \text{ e.o.}$$

(ii) 6500, 13000, 26000, ... e.o.

$$S_n = \frac{a(r^n - 1)}{(r-1)} \text{ e.o.}$$

200, 400, 800, ... ຕາມ ສາມາດຂຶ້ນ ຕາມ ຕຳລາ ຕາມ ຕຳລາ.

$$S_5 = \frac{6500(32-1)}{2-1} \text{ e.o.}$$

$$S_5 = \underline{201,500} \text{ e.o.} \quad \text{ອັດ ອັດ} = \underline{6.204,750} \text{ e.o.}$$

8) (i) විදිස් සමානක වගකණක ගණන් $\text{€} \cdot 01$

(7)

(ii) $38 - 25 = 13 \quad \text{€} \cdot 01$

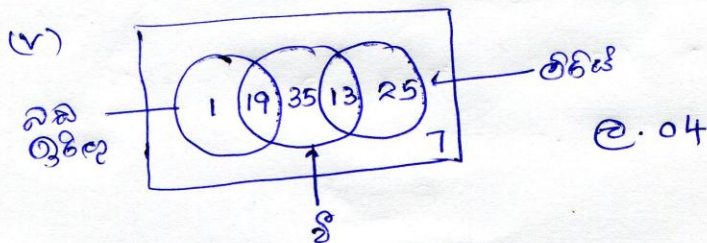
(iii) $68 + 25 = 93 \quad \text{€} \cdot 01$

$100 - 93 = 7 \quad \text{€} \cdot 01$

(iv) $68 - 13 = 55$

$60 - 25 = 35 \quad \text{€} \cdot 01$

$55 - 35 = \underline{\underline{20}} \quad \text{€} \cdot 01$



9) (i) $6r \quad \text{€} \cdot 01$

(ii) $\frac{4}{3} \times \frac{22}{7} \times r^3 \times \frac{1}{2} = \frac{88r^3}{21} \times \frac{1}{2} = \underline{\underline{\frac{44}{21} r^3}} \quad \text{€} \cdot 02$

(iii) $\frac{22}{7} \times 2r \times 2r \times 6r = \underline{\underline{528 r^3}} \quad \text{€} \cdot 01$

$\frac{528r^3}{7} - \frac{44r^3}{21} = \frac{1540r^3}{21} \quad \text{€} \cdot 01$

$\frac{1540r^3}{21} = \frac{22}{7} \times \frac{70}{3} \times r^3 = \underline{\underline{\frac{70}{3} \pi r^3}} \quad \text{€} \cdot 01$

(iv) $\frac{70}{3} \times 3.14 \times (4.5)^3 = x \quad \text{€} \cdot 01$

$\lg 70 + \lg 3.14 + 3 \lg 4.5 - \lg 3 = \lg x$

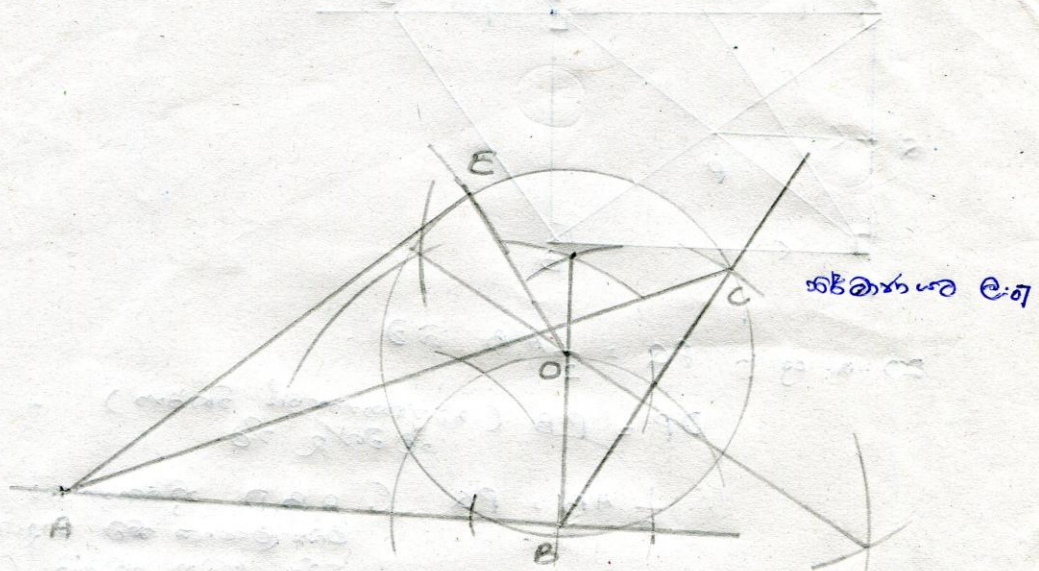
$1.8451 + 0.4969 + 1.9596 - 0.4771 = \lg x \quad \text{€} \cdot 01$

$x = 6674 \quad \text{€} \cdot 01$

$6674 \text{ cm}^3 = 6674 \text{ ml}$

$\frac{6674}{1000} = \underline{\underline{6.674}} \text{ l} \quad \text{€} \cdot 01$

ඔබ්බෙන් - 0.01



ඔබ්බෙන් 0.01

$\angle AEO$ හා $\angle OBA$ එකිනෙකට 180° ගැනීම
 හෝ
 $\angle AEB$ හා $\angle EOB$ එකතුව 180° ගැනීම.

0.02

(i) ආ. ක. යු. :- $DC = FC$ බව.

$DE = DF + FC$

$FC = FC + CE$

$DF = CE$ (දිශානුකූල)

$\therefore DF + FC = CE + FC$ (දිශානුකූල)

0.02

$\therefore DC = FC$

(ii) ආ. ක. යු. :- $ABEF$ ජ්‍යාමිතික චතුරස්‍රයක් බව.

$AB \parallel DC$ (ඔබ්බෙන් උඩින් පිහිටි රේඛා දෙකකට සමාන්තරය)

0.01

$AB = DC = FC$ (ආකාරය)

~~0.01~~

$\therefore ABEF$ ජ්‍යාමිතික චතුරස්‍රයක් (සමාන්තර හා සමාන පසුපසින් පිහිටි.)

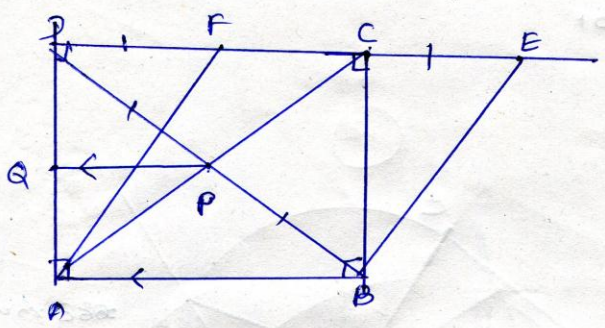
0.01

(iii) එකම කාණ්ඩයක් හා එකම ජ්‍යාමිතික චතුරස්‍රයක් බව පෙන්වීම.

(0.01)

(iv)

9



20. a. ഗ :- $PQ = \frac{1}{2} AB$ എ .

$DP = PB$ (ചതുരകത്തിന്റെ വികേത) - 0.01
 കരളിന്റെ വി.

$\therefore \frac{1}{2} AB = PQ$ (ABD ത്രികോണത്തിന്റെ കരളിന്റെ വികേത കരളിന്റെ വികേത കരളിന്റെ വികേത കരളിന്റെ വികേത കരളിന്റെ വികേത) - 0.01

(v)

20. b. ഗ :- $4PC^2 = AB^2 + BC^2$ എ .

ABC ത്രികോണത്തിന്റെ $AB^2 + BC^2 = AC^2$ (പിത്താഗോറസ് നിയമം) 0.01

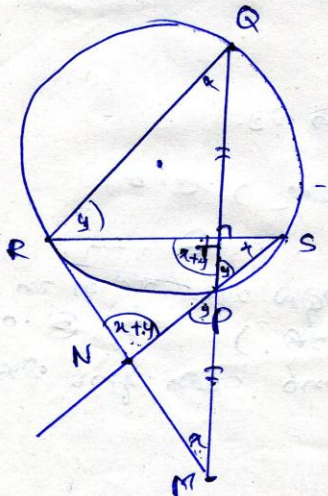
$AC = AP + PC$

$AP = PC$ (ചതുരകത്തിന്റെ വികേത) 0.01

$AC = 2PC$ $AC^2 = (2PC)^2 = 4PC^2$ 0.01

$\therefore AB^2 + BC^2 = 4PC^2$

12



20. a. ഗ :- $RTPN$ തൊട്ടെളി ഉണ്ടാകുന്നതിനായി
 തിരയുക :- $\hat{RQP} = \hat{RSP}$ (തൊട്ടെളിയുടെ വികേത) 0.01

$\triangle RTQ \cong \triangle RTM$ (ബ.ക.ബ.) 0.01

$\therefore \hat{RTP} = \hat{RTM}$ 0.01

$\hat{RTP} = 90^\circ$ 0.01

$\hat{RNP} = \hat{RTP}$ 0.01

$\therefore \hat{RNP} + \hat{RTP} = 180^\circ$ 0.01

തൊട്ടെളി ഉണ്ടാകുന്നതിനായി തിരയുക :- 0.01