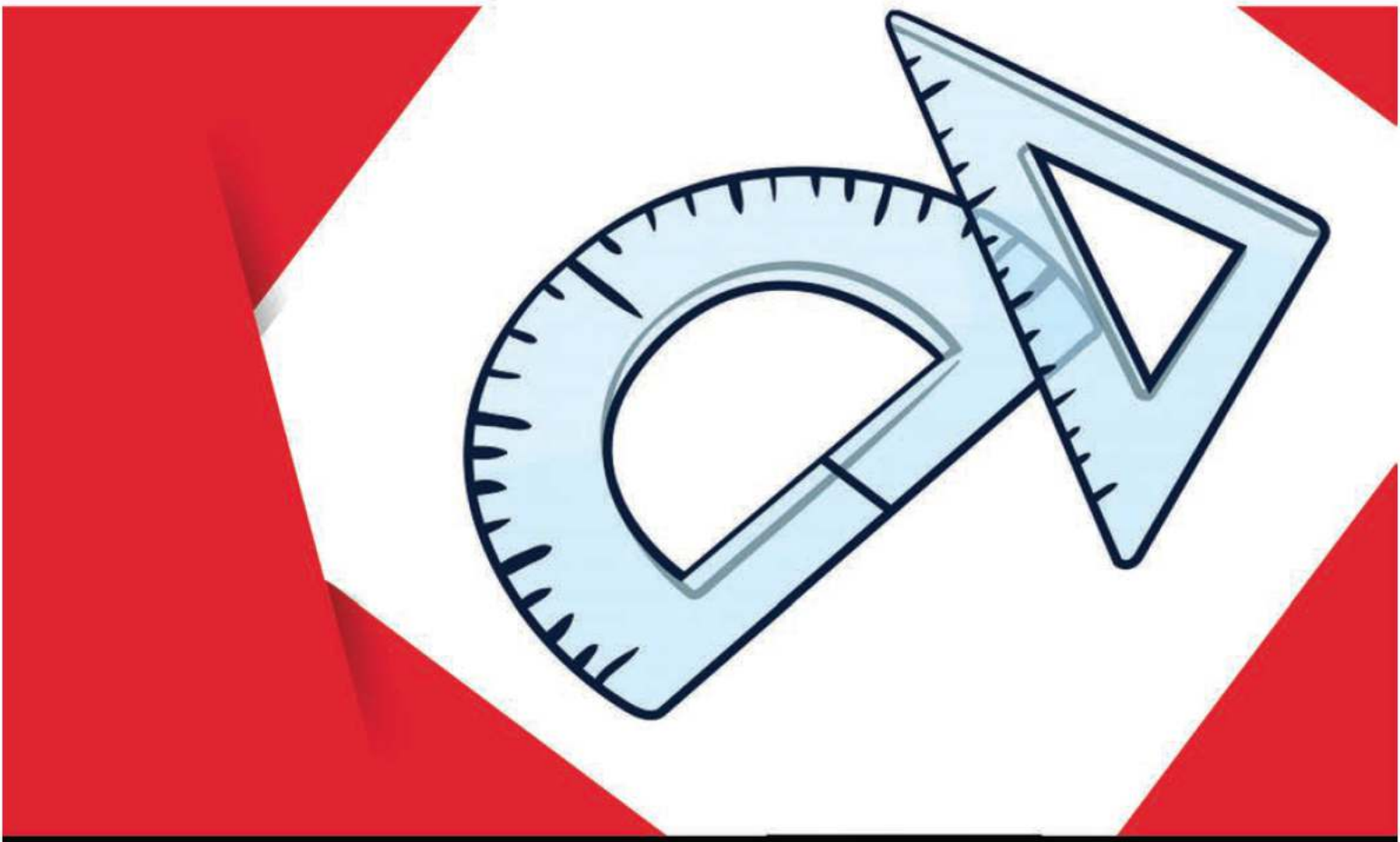
A/L COMBINED MATHEMATICS



Trigonometry

RAJ WIJESINGHE

ඔව්, ශීත කාලය පැමිණේවි

තද ශීත කුණාටු හමාවි

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එහෙත්, වසන්තය එනවා සත්තයි...

Basic Trig Values

1. [redacted].

2. [redacted].

3. [redacted]

4. [redacted].

[redacted].

5. [redacted]

6. [redacted]

7. [redacted]

8. [redacted]

9. [redacted]

10. [redacted]

11. [redacted]°

12. [redacted]

13. [redacted]

14. [redacted]

15. [redacted]

16. [redacted].

17. [redacted].

[redacted] ii. sin 240° iii. sin 300° [redacted]

[redacted] xii. tan(−240°)

18. [redacted].

[redacted]

20. [redacted].

[redacted]

21. [redacted].

[redacted]

22. [redacted]

[redacted]

[redacted]

[redacted]

24. [redacted]

[redacted]

25. [redacted]

[redacted]

26. If $\sin\theta = -\frac{3}{5}$ and θ is an reflex angle find $\cos\theta$ and $\tan\theta$

27. [redacted]

28. [redacted]

29. If $\tan\theta = -\frac{3}{4}$ and θ is an obtuse angle, find $\cos\theta$ and $\sin\theta$

30. [redacted]

31. [redacted]

32. [redacted]

[redacted] [redacted]

[redacted] [redacted]

33. [redacted]

34. [redacted]

35. [redacted]

36. [redacted]

37. [redacted]

38. [redacted]

39. [redacted]

40. [redacted]

41. [redacted]

42. [redacted]

43. [redacted]

44. [redacted]

45. [redacted]

46. [redacted]

47. [redacted].

[redacted]

48. [redacted]

[redacted]

49. [redacted].

[redacted]

50. [redacted].

[redacted]

51. [redacted].

[redacted]

52. [redacted].

[redacted]

53. [redacted].

[redacted]

54. [redacted].

[redacted]

56. [redacted]

57. [redacted]

58. [redacted]

59. [redacted]

60. [redacted]

61. [redacted]

62. [redacted]

64. In the diagram two circles with radius r are intersected. Show that the area of the shaded region is $\frac{r^2}{6}(4\pi - \sqrt{3})$

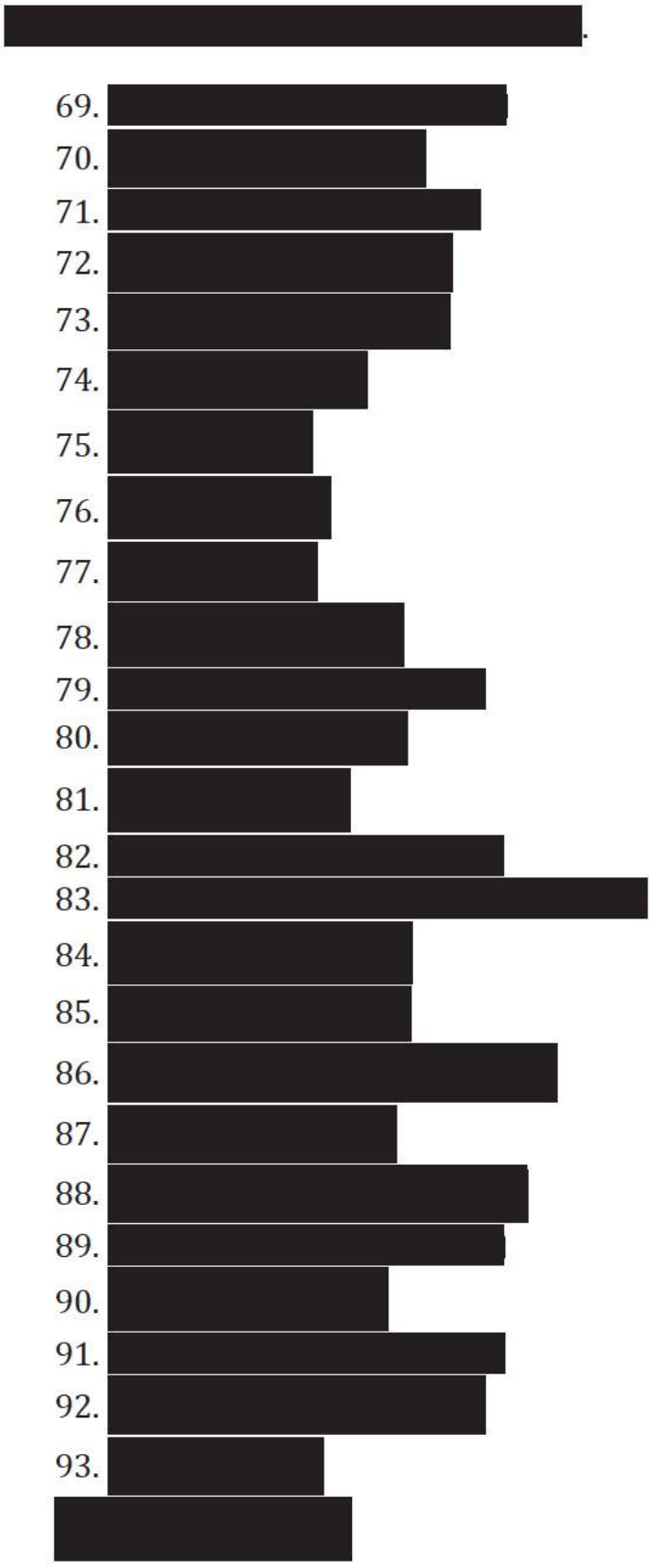
[redacted]

65. A train wheel with 90cm diameter makes t3 rotations per second. Find the velocity of the train.

66. [redacted]

67. [redacted]

68. [redacted]



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115. $\frac{1-\sin\theta}{\cos\theta} \equiv \frac{1}{\sec\theta+\tan\theta}$

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

361. [redacted].

[redacted]

(ii) $\sqrt{\frac{1+\sin\theta}{1-\sin\theta}}+\sqrt{\frac{1-\sin\theta}{1+\sin\theta}}=2\tan\theta$

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

379. [redacted].

[redacted]

(iii) $2(\sin^6 x + \cos^6 x) - 3(\sin^4 x + \cos^4 x) + \sin^2 x + \cos^2 x = 0$

[redacted]

[redacted]

[redacted]

[redacted]

415. $\cos(A+B)\cos(A-B) - \sin(A+B)\sin(A-B)$

[redacted]

[redacted]

434. If $a \tan x = \tan ax$ show that $\sin a^2x = \frac{a^2 \sin^2 x}{1+(a^2-1)\sin^2 x}$ and if $\tan x = t$ show that $\cos 2x = \frac{1-t^2}{1+t^2}$

[redacted]

[redacted]

Trig General

[redacted]

[redacted]

479. [redacted]

[redacted]

[redacted]

(v) $4 \sin 67\frac{1}{2} \sin 22\frac{1}{2}$ (vi) $4\cos(2\alpha - \beta)\cos(2\alpha + \beta)$

[redacted]

482. [redacted]

a) in terms of x only

[redacted]

488. For any value of θ show that $\tan\theta \tan\left(\frac{\pi}{2} - 3\theta\right)$ cannot take any values between $\frac{1}{3}$ and 3.

[redacted]

[redacted]

Trig General

[redacted]

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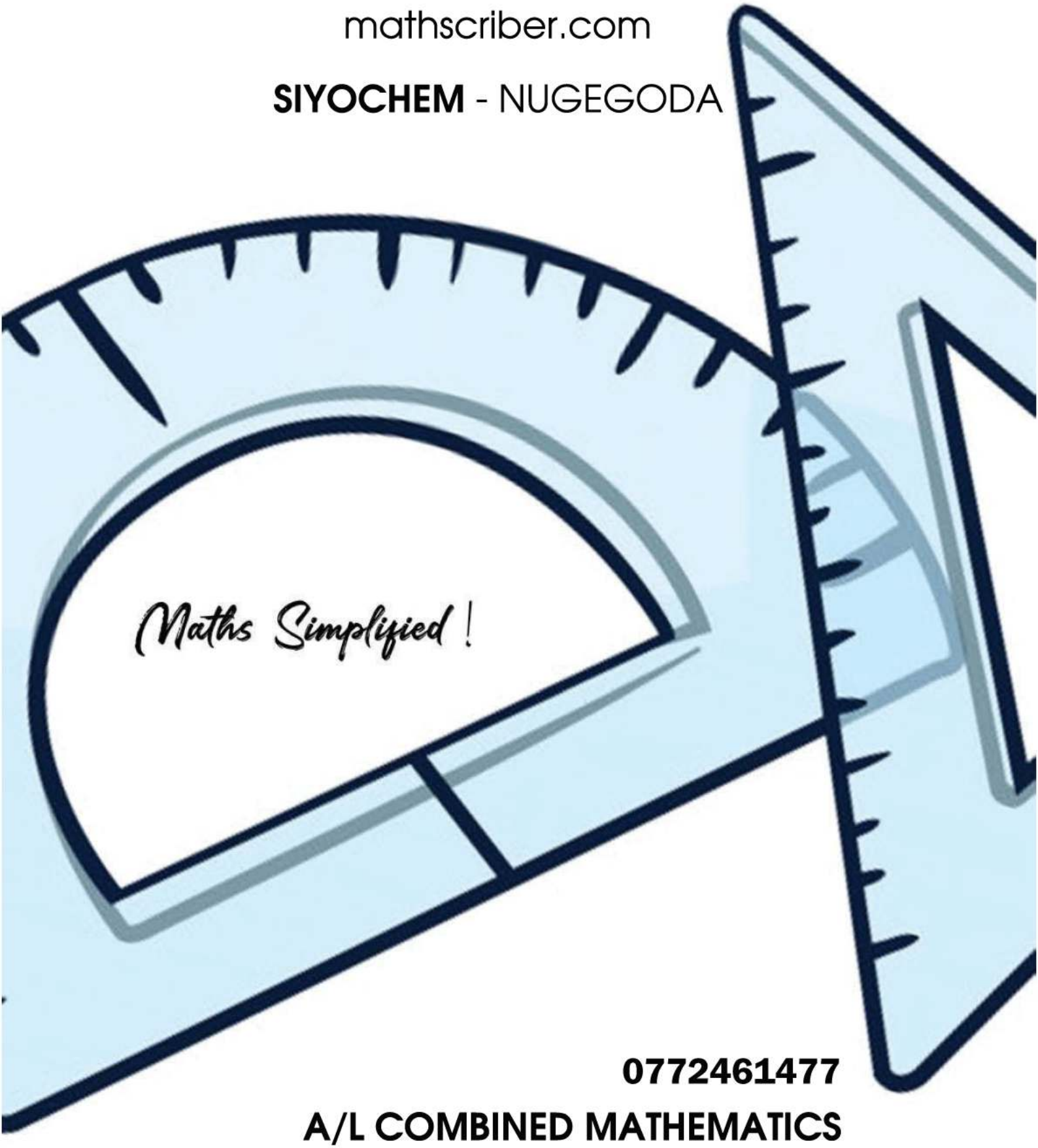

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