



ANSWERS TO TESTS FOR GAITHER/LETO INVITATIONAL JANUARY 27, 1996

CALCULUS

- 1. D
- 2. B
- 3. C
- 4. D
- 5. B
- 6. D
- 7. B
- 8. C
- 9. D
- 10. B
- 11. D
- 12. E
- 13. A
- 14. A
- 15. E
- 16. B
- 17. B
- 18. A
- 19. B
- 20. E
- 21. A
- 22. D
- 23. B
- 24. C
- 25. C
- 26. D
- 27. E
- 28. E
- 29. B
- 30. C

PRECALCULUS

- 1. A
- 2. D
- 3. B
- 4. E
- 5. A
- 6. C
- 7. B
- 8. A
- 9. B
- 10. D
- 11. D
- 12. C
- 13. B
- 14. E
- 15. C
- 16. D
- 17. E
- 18. B
- 19. A
- 20. E
- 21. C
- 22. C
- 23. D
- 24. C
- 25. B
- 26. B
- 27. C
- 28. ~~E~~ D
- 29. A
- 30. C

ALGEBRA 2

- 1. D
- 2. C
- 3. B
- 4. D
- 5. D
- 6. C
- 7. B
- 8. D
- 9. C
- 10. B
- 11. A
- 12. D
- 13. B
- 14. D
- 15. D
- 16. B
- 17. B
- 18. A
- 19. A
- 20. D
- 21. B
- 22. B
- 23. B
- 24. A
- 25. B
- 26. C
- 27. C
- 28. D
- 29. E
- 30. A

GEOMETRY

- 1. A
- 2. A
- 3. B
- 4. C
- 5. D
- 6. D
- 7. C
- 8. B
- 9. D
- 10. E
- 11. A
- 12. E
- 13. C
- 14. C
- 15. A
- 16. B
- 17. B
- 18. B
- 19. D
- 20. C
- 21. D
- 22. D
- 23. A
- 24. D
- 25. A
- 26. B
- 27. B
- 28. B
- 29. E
- 30. C

ALGEBRA 1

- 1. D
- 2. A
- 3. B
- 4. A
- 5. B
- 6. D
- 7. C
- 8. C
- 9. D
- 10. A
- 11. B
- 12. C
- 13. E
- 14. D
- 15. C
- 16. B
- 17. A
- 18. A
- 19. B
- 20. D
- 21. D
- 22. D
- 23. A
- 24. E
- 25. C
- 26. C
- 27. A
- 28. C
- 29. B
- 30. C

Algebra 1 - Solutions to Individual Test - ^{del}Garner Invitational 1996

1. $a=7, b=\frac{5}{3}, c=13$

$\frac{25(20)}{7+5} = \frac{125}{12}$ [D]

2. $2x-3x+12 = 6-2x+2$
 $-x+12 = 8-2x$ [A]
 $x = -4$

3. B

4. $m = -\frac{2}{B}; b = \frac{12}{B}$

$-\frac{2}{B} = \frac{12}{B} - 2$ $-14 = -2B$
 $-2 = 12 - 2B$ $B = 7$
 $m = -\frac{2}{7}$ [A]

5. $2y-3=6$ $-2p(\frac{1}{2})+3=25$
 $y = \frac{9}{2}$ $-11p+3=25$
 $x = \frac{1}{2}$ $-11p=22$
 $p = -2$ [B]

6. $-2 - (-2)^{-4} = -2 - \frac{1}{(-2)^4}$
 $-2 - \frac{1}{16} = -\frac{33}{16}$ [D]

7. $2 \times 3 = -2^2 \cdot 3 = -12$ [C]

8. $f(2) = 2 - 3(2)^2 = -10$
 $g(-10) = 10$ [C]

9. $4x^2 y^4 \sqrt{y}$ [D]

10. $\frac{z}{y} = \frac{4}{5}, \frac{y}{x} = \frac{4}{3}, \frac{x}{w} = \frac{2}{5}$
 $\frac{z}{y} \cdot \frac{y}{x} \cdot \frac{x}{w} = \frac{4}{5} \cdot \frac{4}{3} \cdot \frac{2}{5}$
 $\frac{z}{w} = \frac{32}{75}$ [A]

11. x is # attempted in q1.

$\frac{1}{2}x + \frac{1}{3}(\frac{1}{2}x) + 2(\frac{1}{3})(\frac{1}{2}x) + \frac{x}{3} - 2$

$\frac{1}{2}x + \frac{1}{6}x + \frac{1}{3}x + \frac{1}{3}x - 2 = 14$
 $\frac{4}{3}x = 16$
 $x = 16 \cdot \frac{3}{4}$
 $x = 12$

$\frac{1}{2}(12) + \frac{1}{6}(12) = 6 + 2 = 8$ [B]

12. $\frac{10x+35+25(25x+25)}{5} =$

$\frac{10x+35+625x+625}{5} =$
 $2x+125x+132$ [C]

13. $\frac{2+25}{4+5} = \frac{27}{9} = 3$ [E]

14. $t-a = d(n-1)$
 $\frac{t-a}{d} = n-1$ $n = 1 + \frac{t-a}{d}$ [D]

15. $4x+7+x-3=90$
 $5x+4=90$
 $5x=86$
 $x=20$
 $4(20)+7 = 73$ [C]

16. $\frac{(2h-6)h}{2} = A$
 $2h^2-6h = A$ $A = h^2-3h$ [B]

17. $10! = 10 \cdot 9 \cdot 8!$ $x=90$ [A]

18. $1+3+4+4+7+6+2+9+1+4+4$
 $= 45$ $R=0$ because
 45 is divisible by 9 [A]

19. $2x-4 < 9$ $6-5x < 10$
 $x < \frac{13}{2}$ $-5x < 4$
 $\{ \dots, 4, 5, 6 \} = A$ $x > -\frac{4}{5}$
 $B = \{ 0, 1, 2, \dots \}$
 $A \cap B = \{ 0, 1, 2, 3, 4, 5, 6 \}$ [B]

20. $2x-3y = -8$
 $y = \frac{2}{3}x + \frac{8}{3}$ [D]

21. $-2x-6 - \sqrt{x^2-4x} > 2-3x-\sqrt{x^2-4x}$
 $-3x > 8$
 $x < -\frac{8}{3}$ -3 [D]

22. I. False Ex: $(\frac{1}{2})^2 = \frac{1}{4}$
 II. True
 III. False $2 < 3$ but $-2 > -3$
 IV. True [D]



24. $12x-9y=36$ $4x+36=12$
 $-12x+8y=-24$ $4x=-24$
 $y=-12$ $x=-6$
 $x+y=-18$ [E]

25. $2(x+y)=18$ $x+y=9$ $2x=12$
 $4(x-y)=12$ $x-y=3$ $x=6$
 $y=3$ [C]

26. $-15x^2+4x^4-24x^4+36x^2$
 $= 21x^2-20x^4$ [C]

27. $2x+1 \sqrt{\begin{matrix} 6x^3-5x^2+2x-5 \\ 6x^3+3x^2 \\ \hline -8x^2+2x-5 \end{matrix}}$
 $\frac{6x-5}{6x+3}$ $-\frac{8}{8}$ [A]

28. $\frac{x(x+3)(x-3)}{(x+3)(x+3)} \cdot \frac{4(x+3)}{4} = 4x-12$ [C]

29. $x = .52\bar{3}$ $x = \frac{518}{990} = \frac{259}{495}$
 $10x = 5.2\bar{3}$ $990 \cdot \frac{259}{495} = 990 \cdot \frac{259}{495}$
 $1000x = 523.\bar{2}\bar{3}$ $990x = 518$ $259+495 = 754$ [B]

30. $\frac{x-3}{(x-2)(x-1)} - \frac{x-4}{(x-3)(x-1)}$
 $\frac{(x-3)(x-3) - (x-4)(x-2)}{(x-2)(x-1)(x-3)}$
 $\frac{x^2-6x+9 - x^2+6x-8}{(x-2)(x-1)(x-3)} = \frac{1}{(x-2)(x-1)(x-3)}$ [C]