

ANSWERS TO TESTS FOR GAITHER/LETO INVITATIONAL FEBRUARY 22,

1997

CALCULUS	PRECALC	ALG2	GEOM	ALG 1	INT SCHOOL
1. D	1. D	1. A	1. D	1. A	1. A
2. D	2. E	2. C	2. A	2. B	2. B
3. C	3. D	3. B	3. C	3. D	3. A
4. A	4. C	4. E	4. D	4. E	4. D
5. C	5. C	5. D A	5. D	5. C	5. C
6. B	6. B	6. A	6. C	6. D	6. D
7. E	7. E	7. B	7. A	7. C	7. D
8. C	8. B	8. B	8. C	8. C	8. B
9. A	9. B	9. E	9. D	9. E	9. E
10. C	10. D	10. C	10. D	10. A	10. C
11. B	11. C	11. A	11. B	11. C	11. C
12. A	12. A	12. A	12. A	12. D	12. C
13. C	13. A	13. A	13. C	13. B	13. A
14. D	14. D	14. C	14. B	14. D	14. B
15. A	15. D	15. E	15. C	15. D	15. A
16. B	16. A	16. A	16. C	16. C	16. C
17. B	17. A	17. A	17. D	17. A	17. D
18. E	18. A	18. C	18. C E	18. B	18. B
19. D	19. D	19. D	19. D	19. A	19. C
20. A	20. A	20. B	20. B	20. A	20. A
21. D	21. B	21. A	21. C	21. B	21. D
22. C	22. D	22. C	22. B	22. D	22. C
23. D	23. C	23. C	23. D	23. D	23. E
24. B	24. B	24. D	24. B	24. B	24. D
25. A	25. C	25. A	25. A	25. E	25. D
26. D	26. E	26. B	26. C	26. A	26. C
27. B	27. C	27. B	27. A	27. C	27. B
28. E	28. C	28. C	28. D	28. B	28. B
29. A	29. A	29. A	29. C	29. D	29. E
30. A	30. B	30. C	30. A	30. C	30. A
					31. B
					32. C
					33. A
					34. A
					35. D
					36. B
					37. B
					38. B
					39. D
					40. D
					41. A
					42. E
					43. C
					44. A
					45. C

3 Algebra 1 - individual solutions

1. $\frac{2(9)-5}{20+9} = \frac{13}{29}$ **A**

2. $6x-6y-9x-3y = -3x-9y = -3(x+3y)$ **B**

3. $s = \frac{7}{2}$ $s+2 = \frac{7}{2}+2 = \frac{11}{2}$ $(s+2)^2 = \frac{121}{4} = 30.25$ **D**

4. $v = \# \text{ voters}$ $U - (.1v + .3v + .2v) = .4v$
 $.4v = 120$ $v = 300$ $.3v = 90$ **E**

5. $\frac{5-(-3)}{-1-2} = \frac{k-5}{5-(-1)}$ $\frac{8}{-3} = \frac{k-5}{6}$ $-3k+15=48$
 $-3k = 33$ $k = -11$ **C**

6. $b = \frac{10}{-5} = -2$ $m = \frac{5-(-2)}{-2-0} = -\frac{7}{2}$ **D**
 $y = -\frac{7}{2}x - 2$ $2y = -7x - 4$ $7x + 2y = -4$

7. x is the fractional part

$x(3600)$ died
 $3600 - 3600x$ left
 $x(3600 - 3600x)$ died
 $3600 - 3600x - x(3600 - 3600x) = 400$

$3600 - 7200x + 3600x^2 = 400$
 $9x^2 - 19x + 8 = 0$
 $(3x-4)(3x-2) = 0$
 $x = \frac{4}{3}$ **C**

8. $6x+18-15 = 6x+3 = 6x+18$ **C**

9. $5, 3^2, 2 \cdot 3, 3 \cdot 5$ LCM is $5 \cdot 3^2 \cdot 2 = 90$ **E**

10. $(x+\sqrt{5})(x-\sqrt{5}) = x^2-5$
 $(x^2-5)(x^2+3x-10) = x^4+3x^3-10x^2-5x^2-15x+50$
 $= x^4+3x^3-15x^2-15x+50$ **A**

11. $2m+9 \overline{) 2m^3+15m^2+13m-63}$ **C**
 $\underline{2m^3+9m^2}$
 $6m^2+13m$
 $\underline{6m^2+27m}$
 $-14m-63$

12. $2d+3l=13$
 $d+2l=7$ $\left\{ \begin{array}{l} 2d+3l=13 \\ -2d-4l=-14 \end{array} \right.$ $l=1$
 $d=5$
 $-l=-1$

$2(5)+1(1) = \$15$ **D**

13. $p^2 = \frac{kl}{q}$ $\frac{p^2 q}{l} = k$ **B**

14. **D** is false $|0| = 0$ which is not positive

15. $2k-5 < -4 \Rightarrow 2k < 1 \Rightarrow k < \frac{1}{2}$ **D**

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16. $g = 6+s$ and $3s+(5+g) = 95 \Rightarrow$
 $g = -3s+90$ $\therefore 6+s = -3s+90 \Rightarrow 4s = 84 \Rightarrow s = 21$
 $g = 6+21 = 27$ $s+g = 21+27 = 48$ **C**

17. **A**

18. $\frac{ac}{bd} = \frac{4}{3} \cdot \frac{9}{14} = \frac{6}{7} \Rightarrow 7ac = 6bd$

$\frac{3(\frac{6bd}{7}) - bd}{4bd - 6bd} = \frac{\frac{4}{7}bd}{-2bd} = -\frac{11}{14}$ **B**

19. $9-2x-1 \leq 5x+6$; $-7x \leq -2$; $x \geq \frac{2}{7}$ **A**

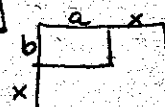
20. **A**

21. $\left. \begin{array}{l} abx + b^2y = 2ab^2 \\ -abx - a^2y = -a(a^2+b^2) \end{array} \right\} (b^2-a^2)y = ab^2-a^3$

$\left. \begin{array}{l} a^2x + aby = 2a^2b \\ -b^2x - aby = -b(a^2+b^2) \end{array} \right\} (a^2-b^2)x = 2a^2b - a^2b - b^3 = a^2b - b^3$

$x+y = \frac{-ab^2 + a^3 + a^2b - b^3}{a^2-b^2} = \frac{a(a^2-b^2) + b(a^2-b^2)}{a^2-b^2}$
 $= \frac{(a^2-b^2)(a+b)}{a^2-b^2} = a+b$ **B**

22. $\frac{a^{10} b^{20} c^{15} \cdot 8a^9 b^4}{a^{14} b^{21} c^{28}} = -8a^5 b^5 c^{-13}$ **D**

23. **D**  $a+x=24$ $ab=72$
 $b+x=18$ $(b+6)b=72$
 $a-b=6$ $b^2+6b-72=0$
 $a=b+6$ $(b+12)(b-6)=0$
 $\therefore b=6, a=12, p=36$ **B**

25. $-3z^2-5z+2z^2-6+8z^2-5z+z^2+2z^2$
 $= 10z^2-10z-6$ **E**

26. $-2 \times 3 = 2 \cdot 4 - 3(-2)(9) = 8+54=62$ **A**

27. Denominators cannot be 0 $x \neq 5, -5, -2, 9$ **C**

28. **B** slope is ratio of cost to # of videos

29. $d = \sqrt{9+16} = 5$ $|x-3| < 5$ $-2 < x < 8$ **D**

30. $\frac{\sqrt{6}}{3} + \frac{\sqrt{6}}{6} + \frac{\sqrt{10}}{5} + \frac{\sqrt{10}}{2} = \frac{10\sqrt{6} + 5\sqrt{6} + 6\sqrt{10} + 15\sqrt{10}}{30}$
 $= \frac{15\sqrt{6} + 21\sqrt{10}}{30}$

$6+21+10+30 = 67$ **C**