

Pre Calculus

LSC #3

Find the number of solutions for the given data. DO NOT SOLVE.

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| 1. $A = 42^\circ, a = 5, b = 10$ | 2. $A = 42^\circ, a = 5, b = 7$ |
| 3. $A = 42^\circ, a = 5, b = 4$ | 4. $A = 73^\circ, a = 8, b = 9$ |
| 5. $A = 73^\circ, a = 8, b = 8$ | 6. $A = 73^\circ, a = 8, b = 3$ |
| 7. $A = 93^\circ, a = 4, b = 8$ | 8. $A = 93^\circ, a = 4, b = 2$ |
| 9. $A = 173^\circ, a = 9, b = 9.1$ | 10. $A = 173^\circ, a = 9, b = 8.9$ |
| 11. $a = 2, a = 3, b = 6$ | 12. $C = 17^\circ, a = 10, b = 11$ |
| 13. $B = 71^\circ, a = 5, c = 275$ | 14. $A = 20^\circ, a = 7, b = 29$ |
| 15. $A = 41^\circ, B = 196^\circ, a = 10$ | 16. $C = 20^\circ, b = 10, c = 4$ |
| 17. $A = 60^\circ, b = 2, a = \sqrt{3}$ | 18. $A = 90^\circ, a = 20, b = 19$ |
| 19. $B = 140^\circ, a = 3, b = 2$ | 20. $C = 120^\circ, b = 14, c = 13$ |
| 21. $A = 105^\circ, b = 13, C = 80^\circ$ | 22. $a = 12, b = 6, c = 4$ |
| 23. $a = 12, c = 19, B = 71^\circ$ | 24. $A = 27^\circ, a = 6, b = 9$ |
| 25. $A = 50^\circ, a = 4, b = 10$ | 26. $a = 17, b = 12, c = 26$ |
| 27. $A = 55^\circ, B = 21^\circ, c = 1$ | 28. $A = 30^\circ, a = 4, b = 8$ |

Solve the following word problems.

29. Two points, A and B , are on opposite sides of a building. A point C is chosen such that $AC = 182.96$ feet, $BC = 165.72$ feet, and angle $ACB = 84^\circ 36.4'$ (see sketch below). Find the distance AB .



30. The direction of the line from A to B is known, but a building between these two points prevents the direct measurement of the entire line. A point C is chosen on AB on the same side of the building as A , and a point D is determined such that angle $ACD = 132^\circ 26.8'$ and $CD = 153.79$ feet. An angle of $96^\circ 48.7'$ is laid off at D , one side along CD and the other side intersection AB at E , on the opposite side of the building from C . Find the distance CE , the distance DE , and the angle DEB .