

Name _____

College Algebra

You have one hour and fifteen minutes to do this exam. No books or notes may be used. You may use a calculator during the exam, but **NO** calculator with a Computer Algebra system (CAS), networking, or camera is permitted. Absolutely no cell phone use during the exam is allowed.

The exam consists of multiple choice questions. Record your answers on this page. For each multiple choice question, you will need to fill in the circle corresponding to the correct answer. It is your responsibility to make it CLEAR which response has been chosen. You will NOT get credit unless the correct answer has been marked on this page and the work for the problem is not provided in the blue book. If you disagree with any of the given choices, then leave the question unanswered.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D

11. A B C D

12. A B C D

13. A B C D

14. A B C D

15. A B C D

All work must be shown to receive credit for each problem.

1. Solve for x : $2x(6x - 1) + 21 = 8x - x(3 - 12x)$.
2. Solve for z : $\frac{3z - 1}{5} + 1 = \frac{7z + 2}{15}$.
3. Solve for t : $\frac{6t - 1}{t^2 + 5t + 4} = -\frac{19}{t + 1}$.
4. Solve for x : $\frac{4x - 1}{x - 2} + \frac{8x}{x^2 - 6x + 8} = \frac{4x + 3}{x - 4}$.
5. Solve for r : $E = 3v\left(4 - \frac{2}{r}\right)$.
6. Solve for x : $y = \frac{4 - 9x}{3}$.
7. Solve by factoring: $4y^2 + 15y + 6 = 4y$.
8. Solve by factoring: $\frac{w^2 - 1}{w + 6} = \frac{5 - 5w}{w + 6} - w$.
9. Solve : $(u + 11)^2 + 6 = 0$.
10. Solve : $4x^2 + 4x - 9 = 0$.
11. Solve : $5x - 7 = x^2$.
12. Solve : $\frac{1}{2}x^2 - 3x = 3$.
13. Solve for z : $2(4 + 5y) \leq 12y - 6(1 - 3y)$.
14. There is a field whose width is 6 meters less than its length. If both the length and width are doubled the perimeter will be 120 meters. What are the dimensions of the field?
15. Two boats start at the same point. One boat starts traveling to the east at 45 mph and two hours later the second boat starts traveling to the east at 60 mph. At some point in time the faster boat will be 145 miles in front of the slower boat. How long has each boat been traveling when this happens?