

Introductory Algebra
Test 3(practice)

Name: _____

Date: _____

Directions: Answer each of the following questions to the best of your ability. Show all work necessary to complete it. Place your answers in the blanks to the right.

1. $\frac{-9x^5 + 3x^3 - 27x^2 + 6x}{3x}$

1. _____

2. $\frac{6x^2 + 11x - 7}{2x - 1}$

2. _____

3. _____

4. _____

3. Write the following number in scientific notation 2,570,000

5. _____

4. Write the following number without exponents 3.276×10^{-3}

6. _____

7. _____

8. _____

9. _____

Factor

5. $6ax + 9ay + 4bx + 6by$

7. $20a^2 - 36a$

10. _____

11. _____

6. $3x^2 + 11x + 10$

Solve

8. $(4x - 3)(4x + 1) = 0$

10. $2x^2 + 11x - 21 = 0$

9. $x^2 - 81 = 0$

11. $x^3 - 4x^2 + 4x = 0$

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Find any values for which the rational expression is undefined. (Where does the function not exist?)

12. $\frac{-4x+3}{5x-2}$

13. $\frac{2x-5}{3x^2+5x+2}$

Reduce

14. $\frac{6x-15xy}{9x^2+6xy}$

Find the Least Common Denominator

15. $\frac{3}{8x^2}, \frac{5}{6x^3}, \frac{7}{12x^4}$

16. $\frac{2x+5}{2x^2+x-6}, \frac{9x-12}{2x^2+7x-15}$

12. _____

13. _____

14. _____

15. _____

Perform the indicated operations. Leave the expressions in lowest terms (Reduce)

17. $\frac{2x+8}{3x-9} \div \frac{3x+12}{x^2-9}$

19. $\frac{a+6}{a^2+3a-4} - \frac{a+2}{a^2-16}$

16. _____

17. _____

18. _____

18. $\frac{3x^2+11x+6}{x^2+2x-15} * \frac{x^2+3x-10}{x^2+4x+3}$

20. $\frac{7}{4x+6} - \frac{3}{10x^2+15x}$

19. _____

20. _____

21. _____

22. _____

Simplify

21. $\frac{\frac{3x}{w}}{\frac{2x^2}{w^4}}$

22. $\frac{\frac{2}{x+1}-1}{2+\frac{5}{x+1}}$