

5. Solve: $3x^2 - 11x + 6 = 0$.

6. Solve: $2x^3 + 2x^2 = 12x$.

7. Solve: $(x - 1)(x + 3) = 4x - 3$.

8. Solve $x^2 - 3x + 11 = 0$.

9. Simplify: $\frac{4x^2 - 4x + 1}{4x^2 + 4x - 3}$.

10. Simplify: $\frac{x^4 - 3x^3 - 18x^2}{2x^3 + x^2 - 15x}$.

11. For which values of x is the rational expression

$$\frac{x^3 + 2x - 42}{x^2 - 13x + 42}$$

defined?

12. Find the values for which the following rational expression is undefined (a.k.a. the *bad values*).

$$\frac{\frac{x+1}{x^2-4} + 1}{\frac{3x}{x^2+4}}$$

13. Combine: $\frac{5}{x-2} - \frac{18}{x^2+2x-8}$

14. Multiply: $\frac{2x-3}{x^2-4} \cdot \frac{x^2-x-6}{2x^2-5x+3} \cdot \frac{2x^2-2x}{x^2-9}$

15. Divide: $\frac{5b}{b+6} \div \frac{b^2-6b}{b^2+3b-18}$

16. Simplify: $\frac{\frac{6}{x-2} - \frac{2}{x}}{4}$
 $\frac{\quad}{x^2-2x}$

17. Solve: $\frac{x}{x+2} = 3 - \frac{2}{x+2}$

18. Solve: $\frac{2}{x-2} + \frac{15}{x^2 - 7x + 10} = \frac{3}{x-5}$

19. Solve the following equation:

$$\frac{x}{x-4} + \frac{1}{x+1} = \frac{2x}{x^2 - 3x - 4}.$$

20. Solve the following equation:

$$\frac{x}{x+4} = \frac{32}{x^2 - 16} + 5.$$