I. Are the following functions continuous or discontinuous?

1. [Graph]

II. Identify the type and place of any discontinuities.

4. \( f(x) = \frac{4x^2 - 9}{2x + 3} \)

5. \( f(x) = \begin{cases} x^2 + 1, & x \leq 1 \\ -2x + 3, & x > 1 \end{cases} \)

6. \( f(x) = \frac{4}{x^2 - 5x - 6} \)

7. \( f(x) = \frac{2x + 7}{4} \)

8. \( f(x) = \frac{2x + 1}{2x^2 - 9x - 5} \)

9. \( f(x) = \frac{-5}{x^2 + 9} \)

III. Find the x-intercept(s) and the y-intercept of each function. REMEMBER... to find the x-intercept(s) you plug in zero for y and to find the y-intercept you plug in zero for x.

10. \( f(x) = \frac{2}{3}x - 5 \)

11. \( f(x) = \frac{1}{x - 5} \)

12. \( f(x) = \frac{x^2 - 4x - 12}{x + 2} \)

13. \( f(x) = \frac{4x^2 + 16x + 15}{2x - 1} \)
IV. Graph each function. Identify whether continuous or discontinuous. Give the type and place of any discontinuities.

14. \( f(x) = \frac{x^2 - 16}{x - 4} \)

15. \( f(x) = \begin{cases} \frac{3}{2}x + 1, & x \leq 2 \\ -(x - 3)^2 + 2, & x > 2 \end{cases} \)

V. Review Problems from Section 2.5. Find the EXACT VALUES of the zeros for each polynomial.

18. \( f(x) = x^2 + 7x^4 + 7x^3 - 21x^2 - 30x \)

19. \( f(x) = 11x^3 - 104x^2 - 181x - 66 \)