Algebra for Calculus

Find the domain of the functions represented by the following:

1. $f(x) = \dfrac{3x}{x^2 + 4x - 12}$

2. $f(x) = \dfrac{8x}{x^2 + 4x - 12}$

3. $f(x) = \dfrac{x + 2}{2x^2 - 7x - 15}$

3. $f(x) = \dfrac{x - 8}{3x^2 - x - 2}$

5. $h(n) = \dfrac{2n + 5}{10n^2 - 33n - 7}$

6. $g(p) = \dfrac{3p - 18}{12p^2 + 5p - 2}$

7. $f(x) = \dfrac{x^2 - 5}{9x^2 - 12x + 4}$

8. $f(x) = \dfrac{3x^2 - 9}{16x^2 - 40x + 25}$

9. $f(t) = \dfrac{t + 1}{3t^2 - 3t - 18}$

10. $g(t) = \dfrac{t^2 - 1}{10t^2 - 50t - 240}$

11. $g(z) = \dfrac{z^3 + 1}{3z^3 - z^2 - 2z}$

12. $g(n) = \dfrac{2n^3 - 8}{2n^3 - n^2 - n}$

13. $g(p) = \dfrac{p - 5}{p^3 - 1}$

14. $g(x) = \dfrac{x - 10}{x^3 - 8}$

15. $g(n) = \dfrac{n + 8}{n^3 - 8n^2 + 2n - 16}$

16. $g(n) = \dfrac{n^3 + 4}{3n^3 + 3n^2 + 5n + 5}$

17. $f(x) = \sqrt{3x - 42}$

18. $f(x) = \sqrt{2x + 9}$

19. $f(x) = \sqrt{8 - 5x}$

20. $f(x) = \sqrt{9 - 2x}$