Intermediate Algebra Skill

Solving Rational Inequalities: Quadratic Numerator and Denominator; RHS 0

Solve the following Rational Inequalities:

1) $\frac{m^2-9}{m+5}>0$

2) $\frac{m-3}{m^2-16}\geq 0$

3) $\frac{m^2-25}{16-m^2}\leq 0$

4) $\frac{1-m^2}{9-m^2}<0$

5) $\frac{x^2+1}{x^2-x-2}>0$

6) $\frac{x^2+4x-12}{4x^2+5}\geq 0$

7) $\frac{(x-2)(x+1)}{x-5}\leq 0$

8) $\frac{x-1}{(x-3)(x+4)}\leq 0$

9) $\frac{(x+4)(x-1)}{x+3}\geq 0$

10) $\frac{x+2}{(x-2)(x+7)}\geq 0$

Answers to Solving Rational Inequalities: Quadratic Numerator and Denominator; RHS 0

1) $(-5,-3)\cup(3,\infty)$

2) $(-4,3]\cup(4,\infty)$

3) $(-\infty,-5]\cup(-4,4)\cup[5,\infty)$

4) $(-3,-1)\cup(1,3)$

5) $(-\infty,-1)\cup(2,\infty)$

6) $(-\infty,-6]\cup[2,\infty)$

7) $(-\infty,-1]\cup[2,5)$

8) $(-\infty,-4)\cup[1,3)$

9) $[-4,-3)\cup[1,\infty)$

10) $(-7,-2]\cup(2,\infty)$