Directions: Determine if the following rational functions have a horizontal asymptote, a slant asymptote, or neither.

1. $f(x)=\dfrac{2x^2-3x+5}{5x^2-6}$

2. $r(x)=\dfrac{2x^2+4x+7}{6-5x}$

3. $h(x)=\dfrac{x^3-2x+5}{3x-4}$

4. $k(x)=\dfrac{x^4-3x^2+x-9}{2x^3-x+7}$

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

6. $y=\dfrac{(x-2)^2(3x^2+2)}{x(x+1)(x-5)}$

Directions: For each rational function below, use long division to find the equation of the slant asymptote.

7. $f(x)=\dfrac{x^2-6x+7}{x-1}$

8. $g(x)=\dfrac{2x^2-x+4}{x+3}$

9. $h(x)=\dfrac{x^3-4x^2+3x-1}{x^2-2x+5}$

10. $k(x)=\dfrac{2x^3-x^2+1}{x^2+x+1}$