A. Find the inverse of each function. Show your work.
B. Find the domains and ranges of the original function and the inverse function.

1. $y = -2x + 5$

2. $y = \dfrac{1}{3}x - 2$

3. $y = \dfrac{1}{x} + 6$

4. $y = \dfrac{-1}{x+5}$

5. $y = \dfrac{5}{x-6}$

6. $y = \dfrac{-2}{x-4} - 5$

7. $y = \dfrac{4-x}{2x+3}$

8. $y = \dfrac{5x-6}{2x+7}$

Verify that f(x) and g(x) are inverse functions. Show your work.

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

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

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

$g(x) = \dfrac{4x-11}{x-3}$

For the equation below, sketch the original function and find then domain and range. Then sketch the inverse and find the domain and range.

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

$f^{-1}(x) =$ _____

Domain: _____

Range: _____

Domain: _____

Range: _____