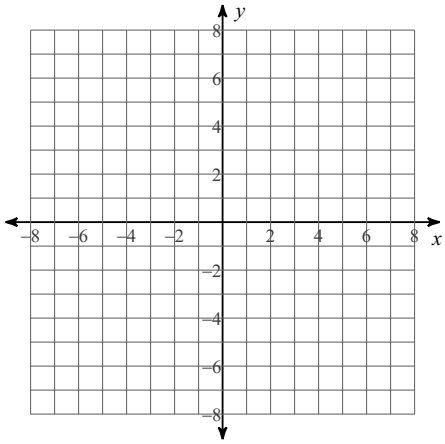
H Math 2 Name_____

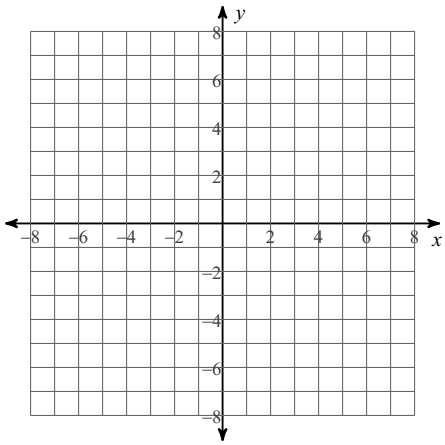
Notes: Inverse Functions

Identify the vertical asymptotes, x-intercepts, horizontal asymptote, domain, and range of each. Then sketch the graph.

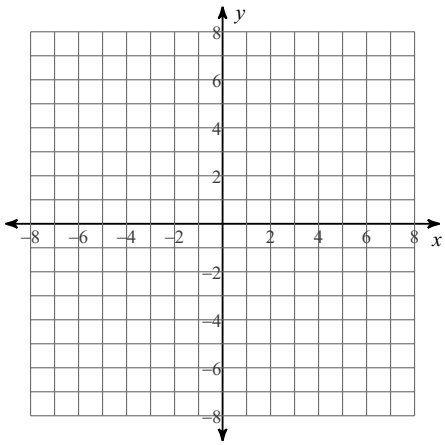
1) $f(x) = \frac{1}{x}$



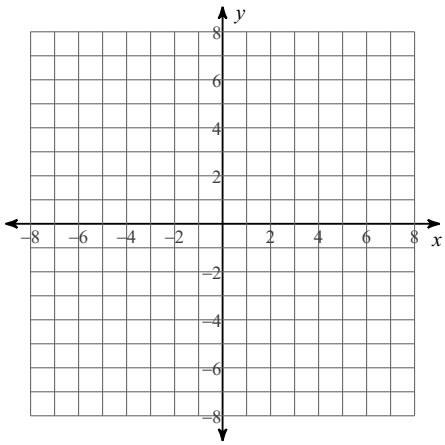
2) $f(x) = \frac{1}{x} - 1$



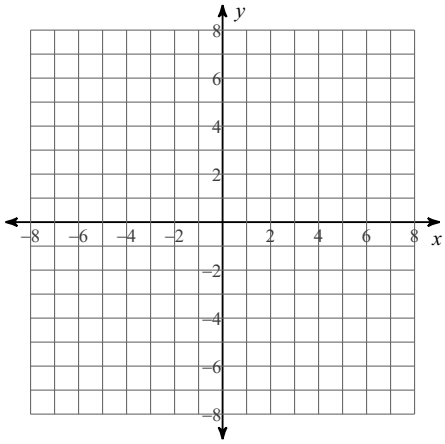
3) $f(x) = \frac{1}{x - 3}$



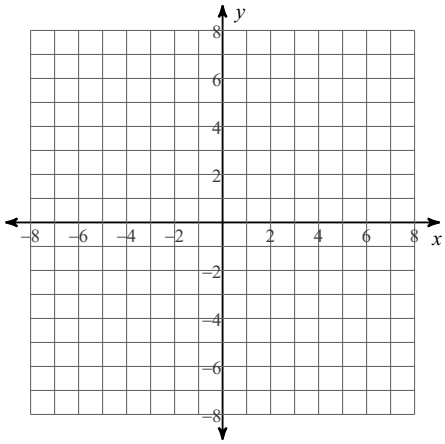
4) $f(x) = \dfrac{1}{x+4} + 3$



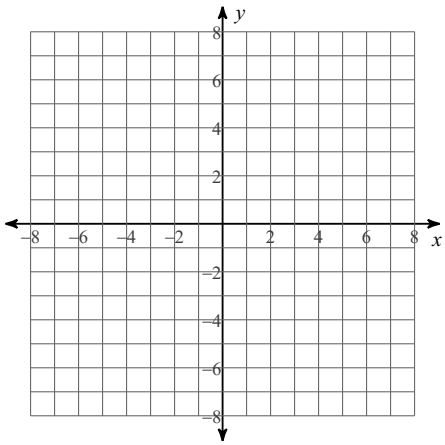
5) $f(x) = -\dfrac{1}{x}$



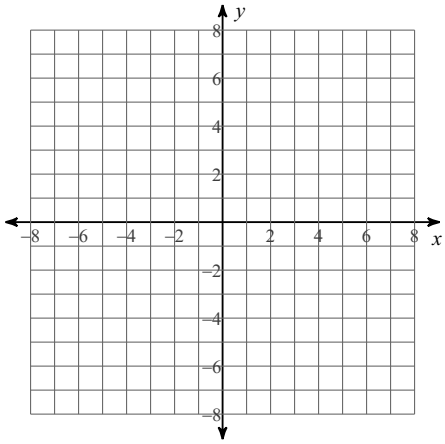
6) $f(x) = \dfrac{2}{x}$



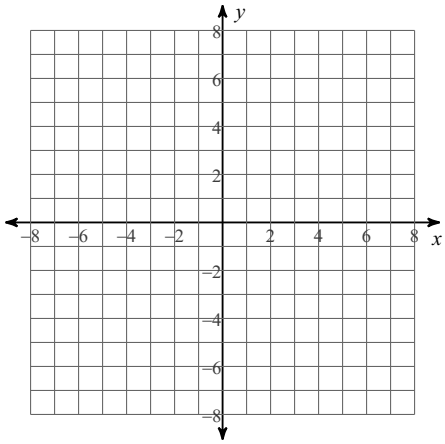
7) $f(x) = \dfrac{4}{x-2}$



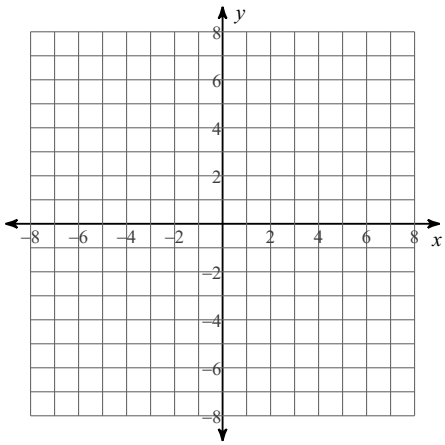
8) $f(x) = -\dfrac{1}{x+4}$



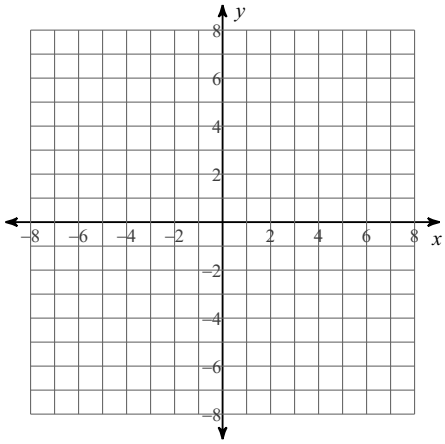
9) $f(x) = \dfrac{4}{x} + 1$



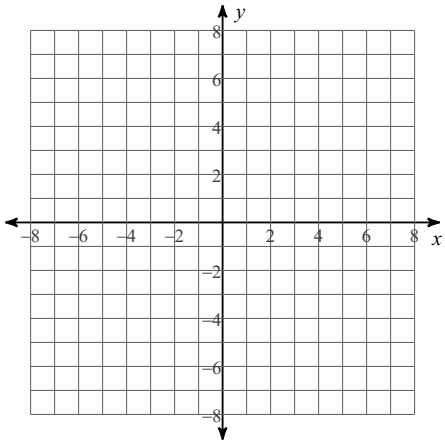
10) $f(x) = \dfrac{3}{x-2} - 1$



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



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



H Math 2 Name_____

Notes: Inverse Functions

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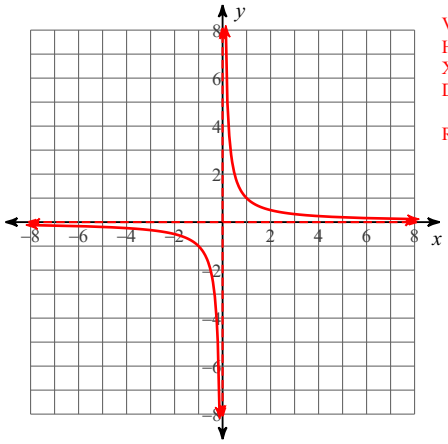
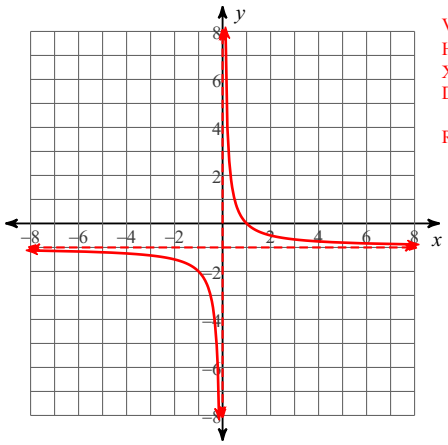
1) $f(x) = \frac{1}{x}$



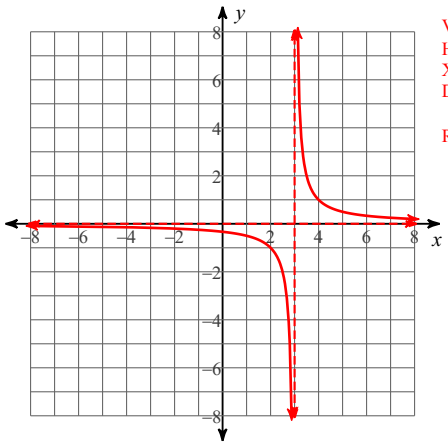
Vertical Asym.: $x = 0$
Horz. Asym.: $y = 0$
X-intercepts: None
Domain:
All reals except 0
Range:
All reals except 0

2) $f(x) = \frac{1}{x} - 1$



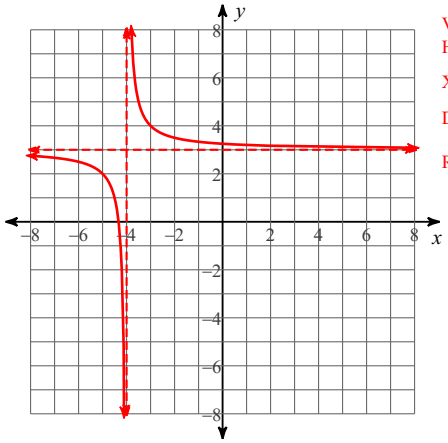
Vertical Asym.: $x = 0$
Horz. Asym.: $y = -1$
X-intercepts: 1
Domain:
All reals except 0
Range:
All reals except -1

3) $f(x) = \frac{1}{x - 3}$



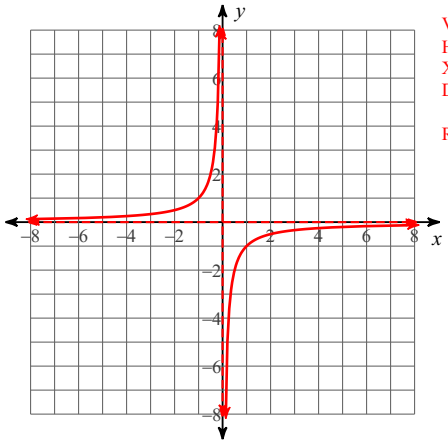
Vertical Asym.: $x = 3$
Horz. Asym.: $y = 0$
X-intercepts: None
Domain:
All reals except 3
Range:
All reals except 0

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



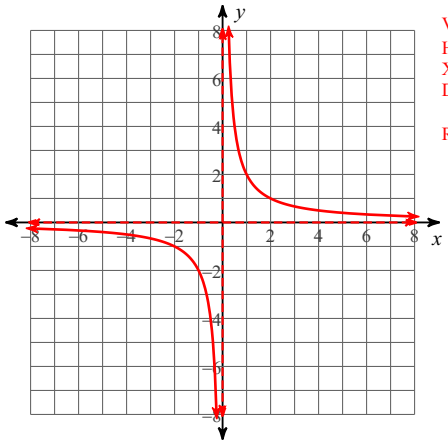
Vertical Asym.: $x = -4$
Horz. Asym.: $y = 3$
X-intercepts: $-\dfrac{13}{3}$
Domain:
All reals except -4
Range:
All reals except 3

5) $f(x) = -\dfrac{1}{x}$



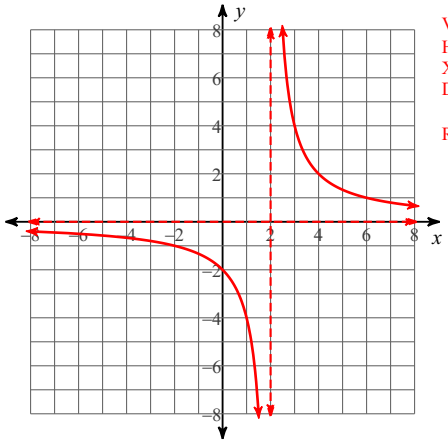
Vertical Asym.: $x = 0$
Horz. Asym.: $y = 0$
X-intercepts: None
Domain:
All reals except 0
Range:
All reals except 0

6) $f(x) = \dfrac{2}{x}$



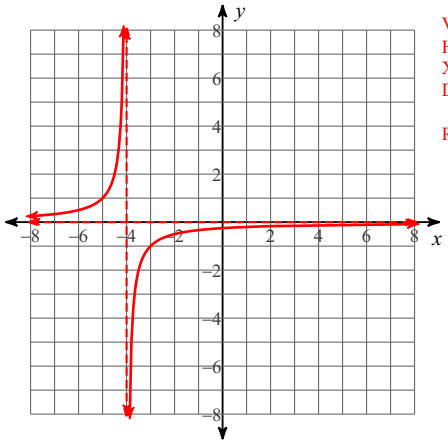
Vertical Asym.: $x = 0$
Horz. Asym.: $y = 0$
X-intercepts: None
Domain:
All reals except 0
Range:
All reals except 0

7) $f(x) = \dfrac{4}{x-2}$



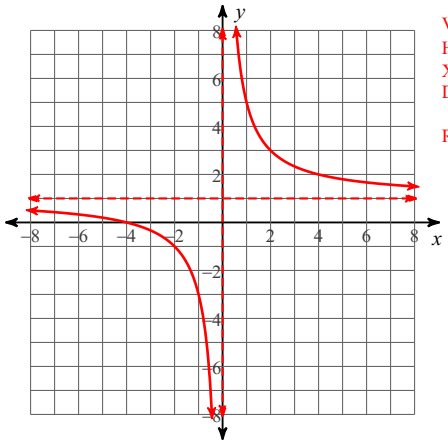
Vertical Asym.: $x = 2$
Horz. Asym.: $y = 0$
X-intercepts: None
Domain:
All reals except 2
Range:
All reals except 0

8) $f(x) = -\dfrac{1}{x+4}$



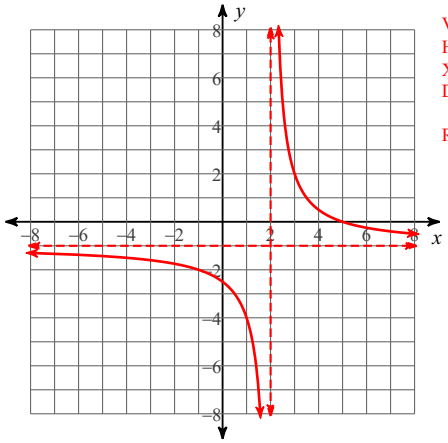
Vertical Asym.: $x = -4$
Horz. Asym.: $y = 0$
X-intercepts: None
Domain:
All reals except −4
Range:
All reals except 0

9) $f(x) = \dfrac{4}{x} + 1$



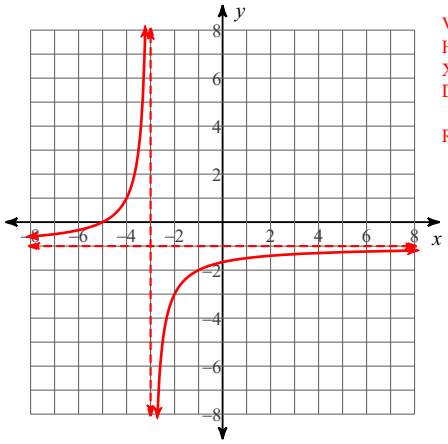
Vertical Asym.: $x = 0$
Horz. Asym.: $y = 1$
X-intercepts: −4
Domain:
All reals except 0
Range:
All reals except 1

10) $f(x) = \dfrac{3}{x-2} - 1$



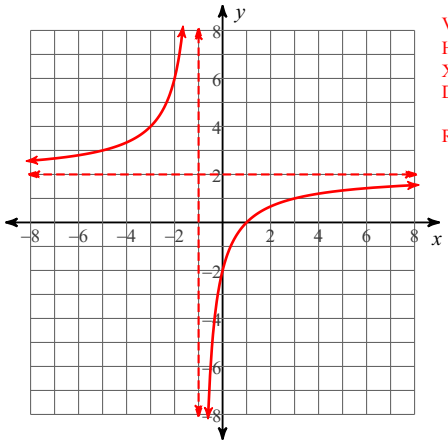
Vertical Asym.: $x = 2$
Horz. Asym.: $y = -1$
X-intercepts: 5
Domain:
All reals except 2
Range:
All reals except −1

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



Vertical Asym.: $x = -3$
Horz. Asym.: $y = -1$
X-intercepts: −5
Domain:
All reals except −3
Range:
All reals except −1

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



Vertical Asym.: $x = -1$
Horz. Asym.: $y = 2$
X-intercepts: 1
Domain:
All reals except −1
Range:
All reals except 2