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Name: \_\_\_\_\_ Date: \_\_\_\_\_

MCR3U

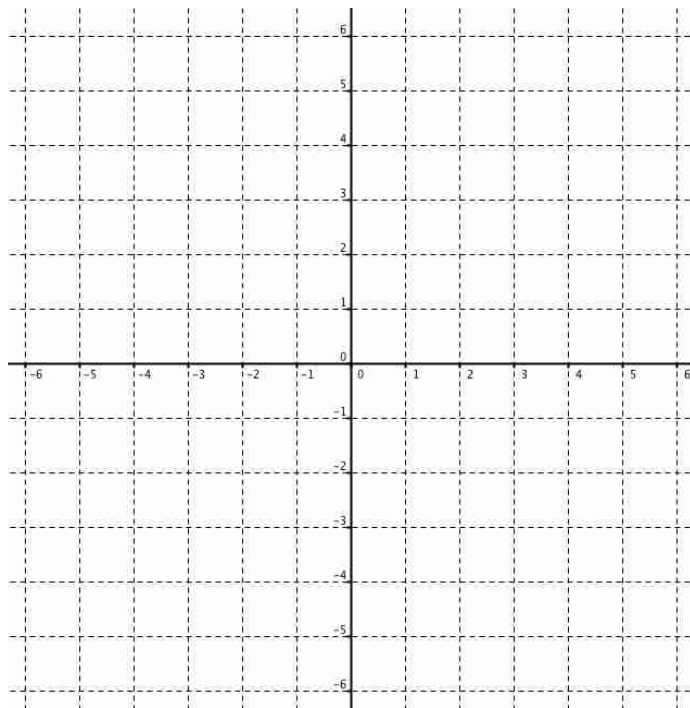
Test: Inverse and reciprocal functions (Practice for

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K

1. Determine the equation of the inverse,  $f^{-1}(x)$ , of the function  $f(x) = -\frac{2}{3}x + 5$

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2. Graph the inverse,  $g^{-1}(x)$  of the function  $g(x) = (x+2)^2 - 1$



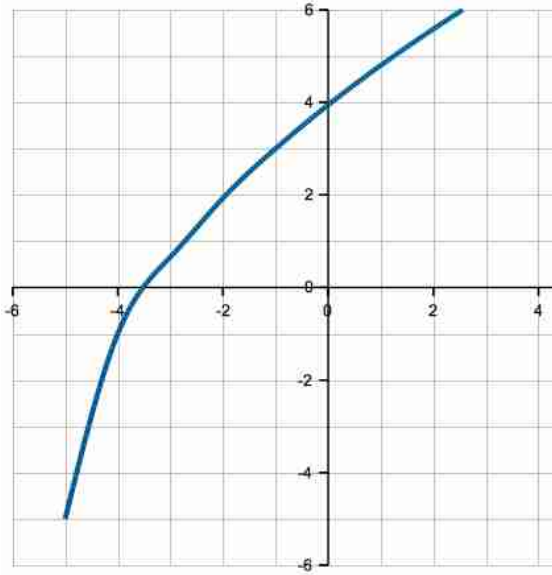
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3. Describe how to transform the base graph  $f(x) = \sqrt{x}$  in order to graph  $f(x) = \frac{1}{4}\sqrt{x+3}$

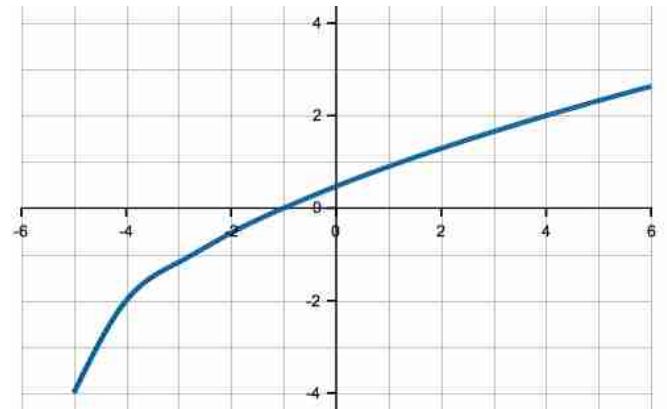
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4. Determine equations for the functions shown in the graphs below.

a)



b)



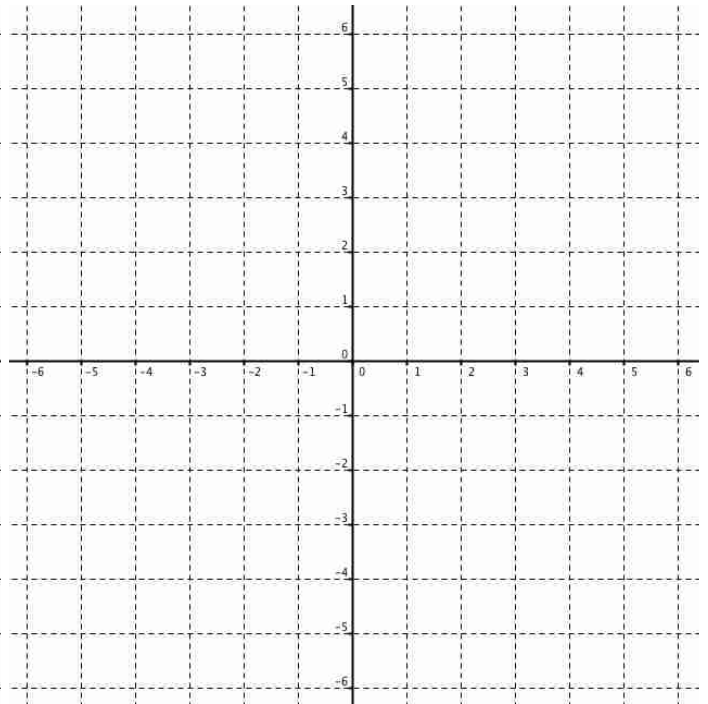
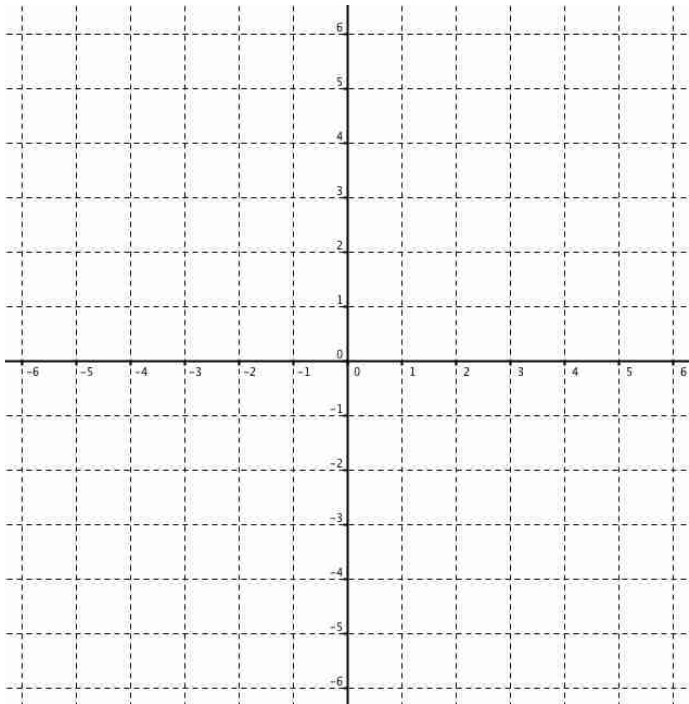
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5. Graph each of the following functions. Mark all points in the domain and range of the grids provided.

$$f(x) = -\sqrt{2x} + 4$$

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

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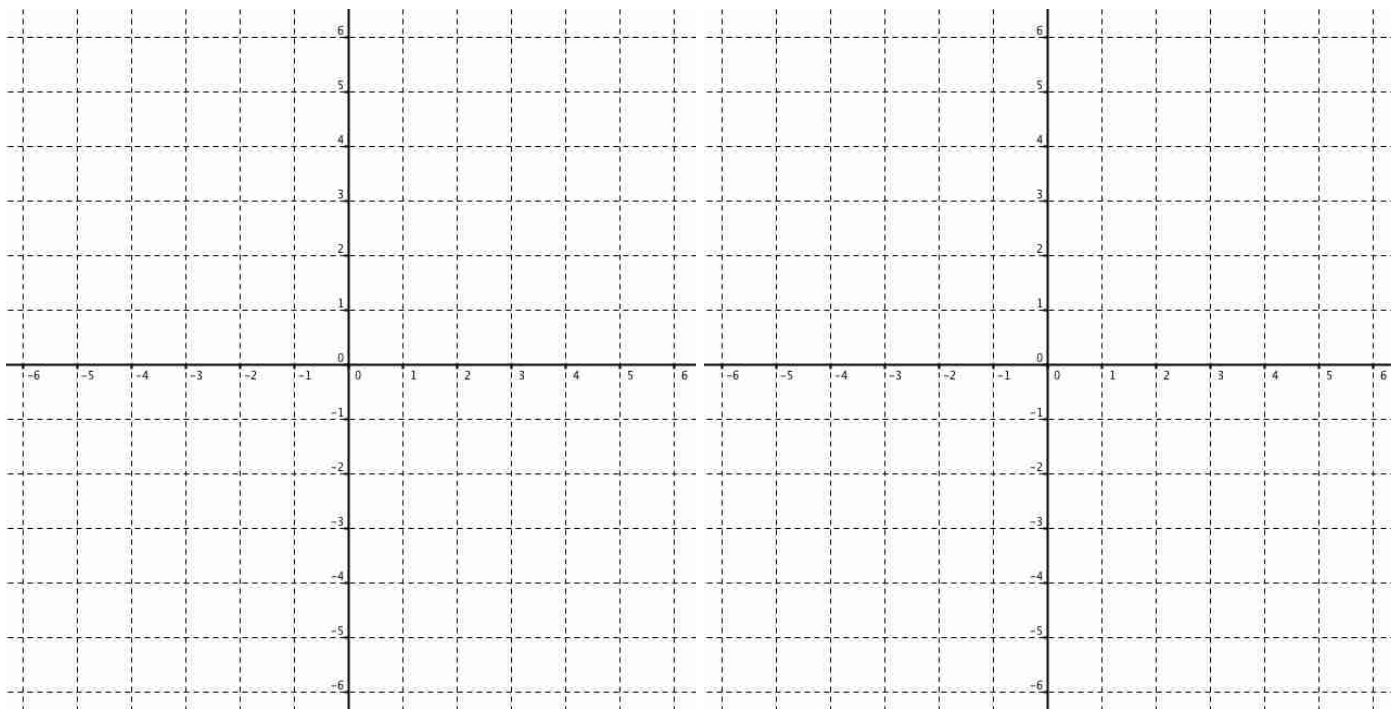
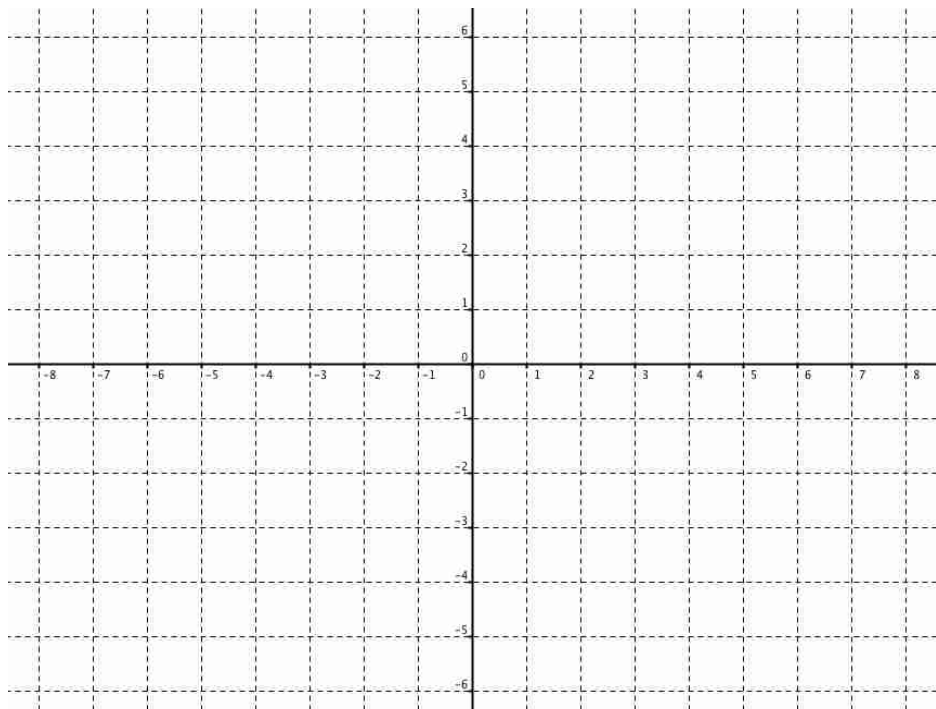


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6. Graph each of the following functions accurately on the grids provided.

$$f(x) = \frac{2}{x+2}$$

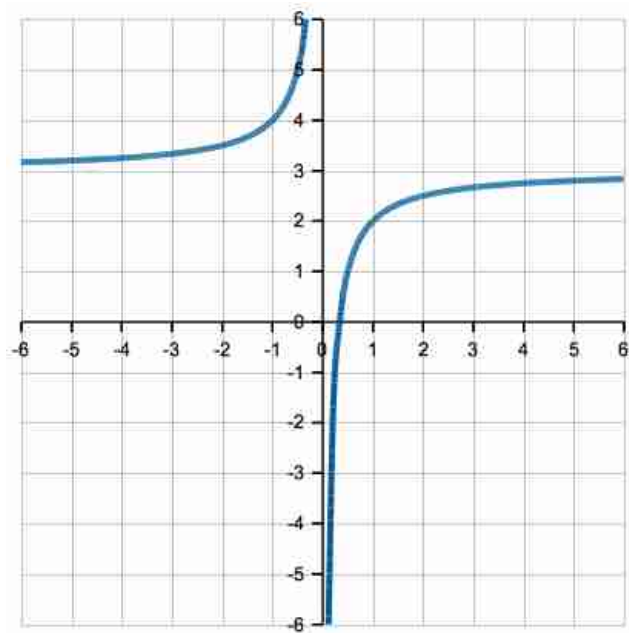
$$f(x) = 3 - \frac{1}{x}$$

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T7. Graph the reciprocal of the linear function  $y = 2x - 6$ 

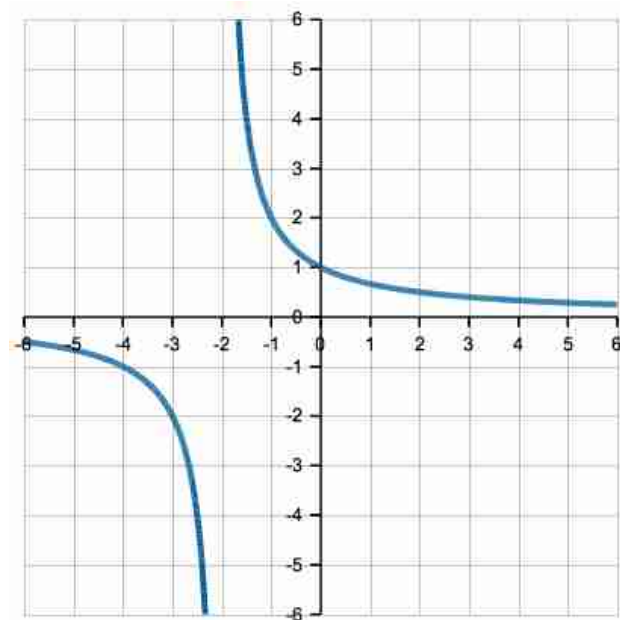
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8. Determine equations for the functions shown in the graphs below.

a)



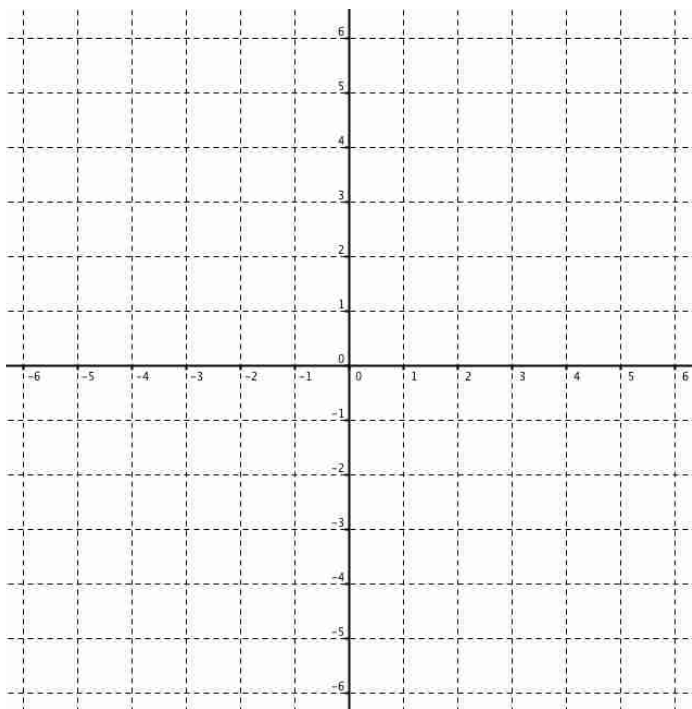
b)



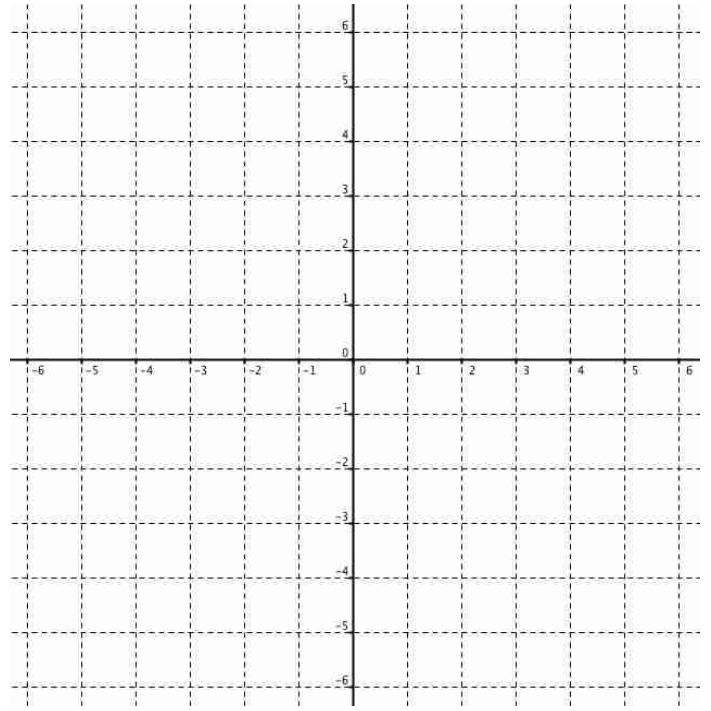
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A

11. Simplify and graph the following functions.

a)  $f(x) = \frac{2x+2}{x^2-x-2}$



b)  $f(x) = \frac{2x^2 + 3x - 9}{x + 3}$



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12. Simplify the following rational expressions. State all restrictions.

a)  $f(x) = \frac{x+4}{x^2-x-20} \div \frac{2}{x-5}$

b)  $f(x) = \frac{2}{x+2} - 3$