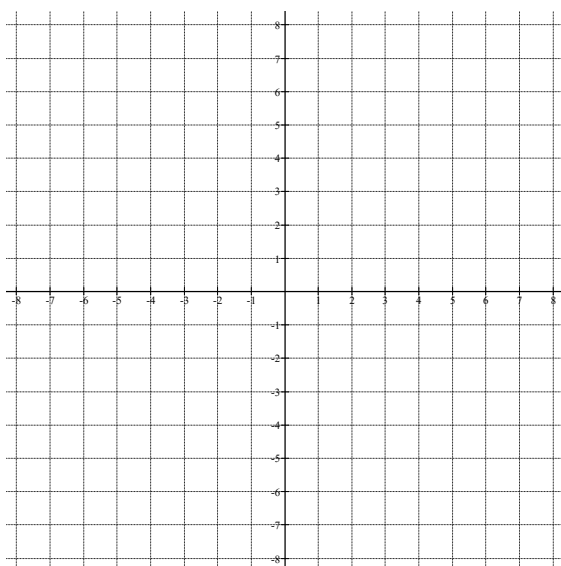


***Unit 9: Rational Functions******9.1 Exploring Rational Functions Using Transformations***

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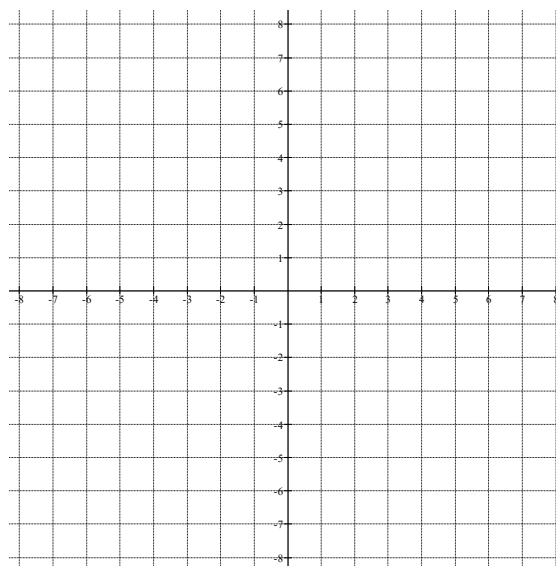
**Rational function:**

Domain:

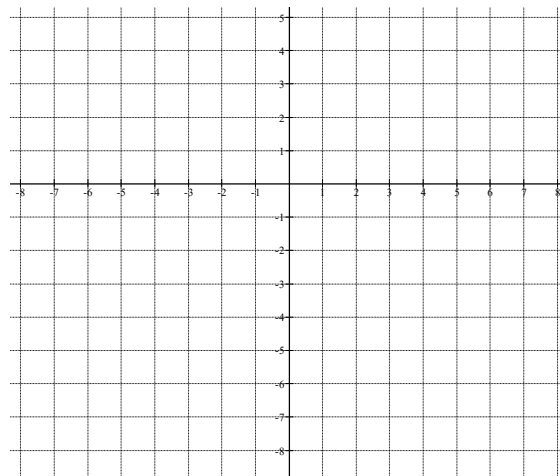
Range:

We can transform rational functions the same as before, so a function like  $y = \frac{3}{x+1} + 4$  means

Consider the function  $y = \frac{6}{x}$



**Ex.** Graph the function  $y = \frac{6}{x-2} - 3$

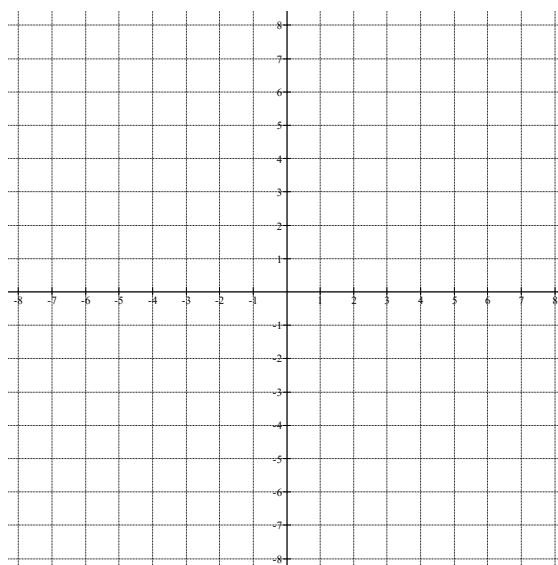


What if the function is in a different form? For example, the previous function could have been written

We don't have a specific *vertex* or *standard* form, but we can break them into multiple parts.

**Ex.**  $y = \frac{3x}{x+5}$

**Ex.** Graph  $f(x) = \frac{4x-5}{x-2}$  by rearranging the function to  $y = \frac{a}{x-h} + k$



Practice: pg. 442/ # 1, 3 – 5, 7 – 10, 14, 16, 18