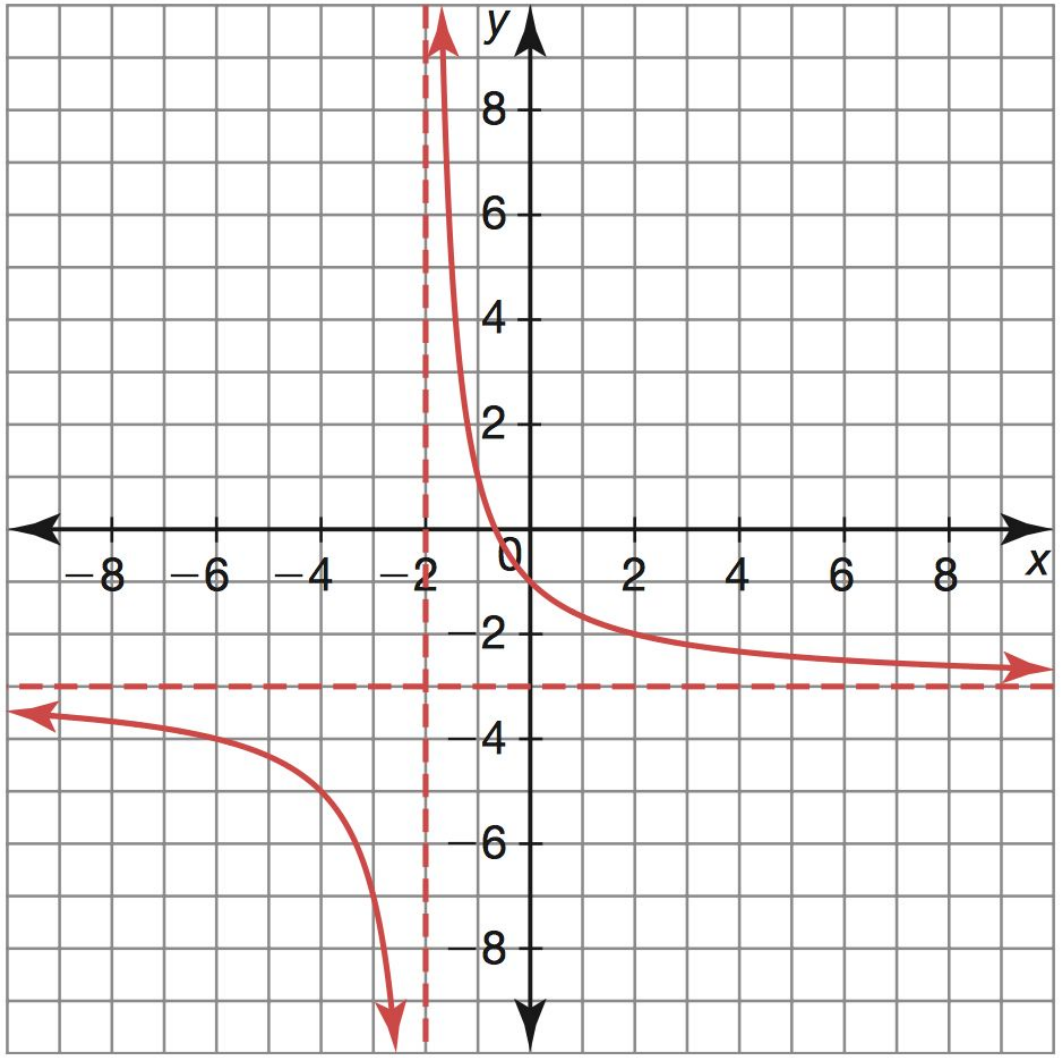
Station 1: Average Cost

A local artist sells handmade clocks. He bought machinery for $1500 and spends $40 on materials for each clock he makes. How many clocks should the artist make to achieve an average cost of $100 per clock?

Station 2: Transformations of Rational Fns

EQUATION	DESCRIPTION
Parent Function: $f(x) = \frac{1}{x}$ $g(x) = -\frac{2}{x-5} - 1$	
Parent Function: $h(x) = \frac{1}{x^2}$ $j(x) = 3 + \frac{4}{(x+1)^2}$	
Parent Function: $m(x) = \frac{1}{x^5}$ $n(x) = \frac{1}{4x^5} + 2$	

Station 3: End & Middle Behavior

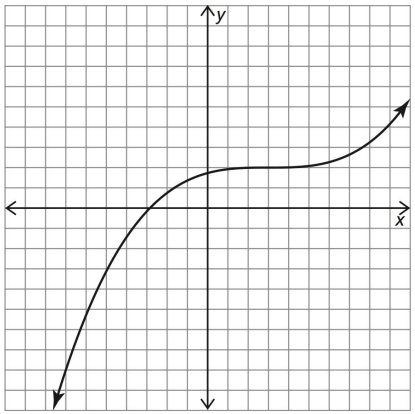


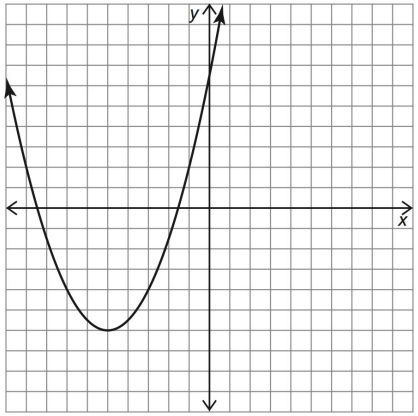
Station 4: Solving Rational Equations

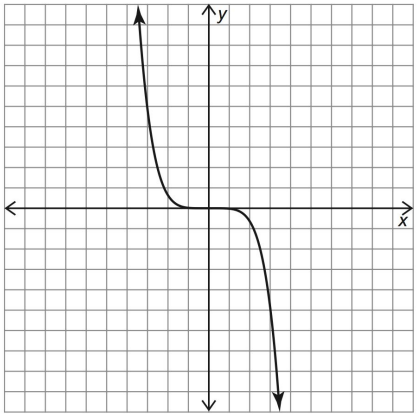
$$\frac{-4}{x-6} + \frac{6}{x+7} = \frac{10}{x^2+x-42}$$

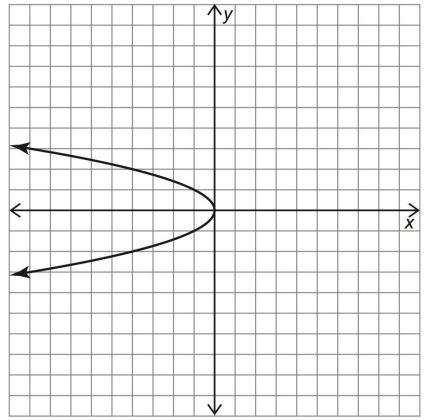
Station 5: Invertible Functions

Which of the following are invertible?
Explain why or why not.









Station 6: Transformations of Radical Fns

EQUATION	DESCRIPTION
	$y = \sqrt{x}$ was translated down 10 units and 6 units to the right
	$y = \sqrt[3]{x}$ was horizontally compressed by a factor of 1/5, reflected across the *x*-axis, and translated up 7 units
	$y = \sqrt[8]{x}$ was vertically stretched by a factor of 3, translated 10 units to the left, and translated 4 units down

Station 7: Transformations of Trig Fns

EQUATION	DESCRIPTION
Parent Function: $c(x) = \sin x$ $d(x) = \frac{1}{2}\sin\left(3x + \frac{\pi}{6}\right) + 4$	
Parent Function: $r(x) = \cot x$ $s(x) = 2 - 5\cot\left(\frac{x}{4} - \frac{3\pi}{8}\right)$	
Parent Function: $w(x) = \sec x$ $u(x) = \sec\left(2x + \frac{3\pi}{2}\right) - 5$	

Station 8: Domain & Range

FUNCTION	DOMAIN	RANGE
$h(x) = csc\ x - 2$		
$j(x) = \sqrt{x+5} - 1$		
$k(x) = \sqrt[3]{7x+2}$		