

Rational Functions Transformations, Day 3 – Answers

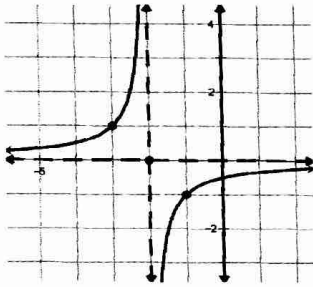
1. Parent: $y = \frac{1}{x}$

left 2, reflection over the x -axis

D: $(-\infty, -2) \cup (-2, \infty)$

R: $(-\infty, 0) \cup (0, \infty)$

Asymp: $x = -2, y = 0$



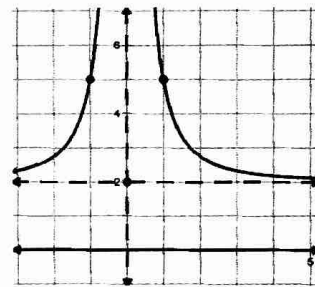
2. Parent: $y = \frac{1}{x^2}$

up 2, vertical dilation BAFO 3

D: $(-\infty, 0) \cup (0, \infty)$

R: $(2, \infty)$

Asymp: $x = 0, y = 2$



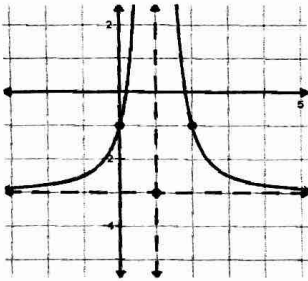
3. Parent: $y = \frac{1}{x^2}$

right 1, down 3, vertical dilation BAFO 2

D: $(-\infty, 1) \cup (1, \infty)$

R: $(-3, \infty)$

Asymp: $x = 1, y = -3$



key pts

x	y
-1	1
1	1

x	y
-1	2
1	2

DB/RI

x	y
0	-1
2	-1

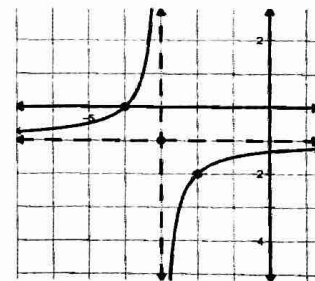
4. Parent: $y = \frac{1}{x}$

left 3, down 1, reflection over the x -axis

D: $(-\infty, -3) \cup (-3, \infty)$

R: $(-\infty, -1) \cup (-1, \infty)$

Asymp: $x = -3, y = -1$



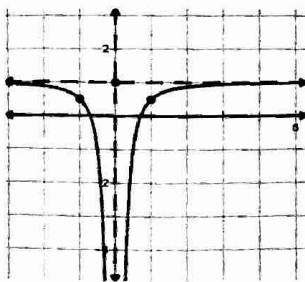
5. Parent: $y = \frac{1}{x^2}$

vertical dilation BAFO $\frac{1}{2}$, reflection over the x -axis

D: $(-\infty, 0) \cup (0, \infty)$

R: $(-\infty, 1)$

Asymp: $x = 0, y = 1$



6. Parent: $y = \frac{1}{x}$

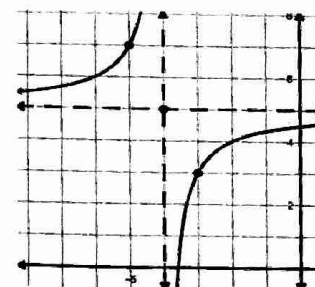
left 4, up 5, vertical dilation BAFO 2,

reflection over the x -axis

D: $(-\infty, -4) \cup (-4, \infty)$

R: $(-\infty, 5) \cup (5, \infty)$

Asymp: $x = -4, y = 5$



$$7. f(x) = -\frac{2}{(x-3)^2}$$

$$8. f(x) = \frac{3}{x+1} + 2$$

$$9. f(x) = \frac{1}{2x} - 4$$

$$10. f(x) = -\frac{2}{(x+2)^2} + 3$$



$$f(x) = \frac{1/2}{x} - 4$$

$$f(x) = \frac{1}{2x} - 4$$