

Answers 2-10 Review 2

1) Family: Exponential

Parent function:  $f(x) = 2^x$   
 Horizontal Asymptote:  $y=3$

2) Family: Rational

Parent function:  $f(x) = \frac{1}{x}$   
 Horizontal Asymptote:  $y=-2$   
 Vertical Asymptote:  $x=4$

3) Family: Logarithmic

Parent function:  $f(x) = \log(x)$   
 Horizontal Asymptote: none  
 Vertical Asymptote:  $x=-3$

4) Family: Exponential

Parent function:  $f(x) = 2^x$   
 Horizontal Asymptote:  $y = -5$   
 Vertical Asymptote: none

5) Family: Rational

Parent function:  $f(x) = \frac{1}{x}$   
 Horizontal Asymptote:  $y = 1$   
 Vertical Asymptotes:  $x=-5$  and  $x=2$

6) Family: Logarithmic

Parent function:  $f(x) = \log(x)$   
 Horizontal Asymptote: none  
 Vertical Asymptotes:  $x=-6$

7) Family: Exponential

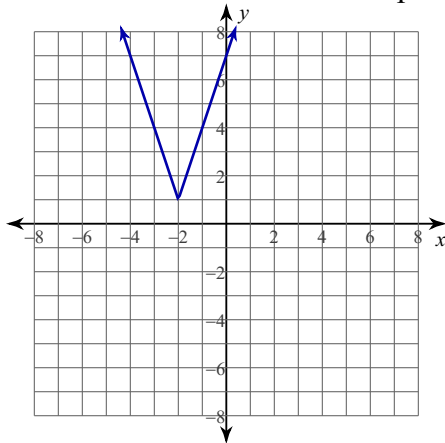
Parent function:  $f(x) = 2^x$   
 Horizontal asymptote:  $y = 2$

8) Family: Logarithmic

Parent Function:  $f(x) = \log(x)$   
 Vertical asymptote:  $x = -5$

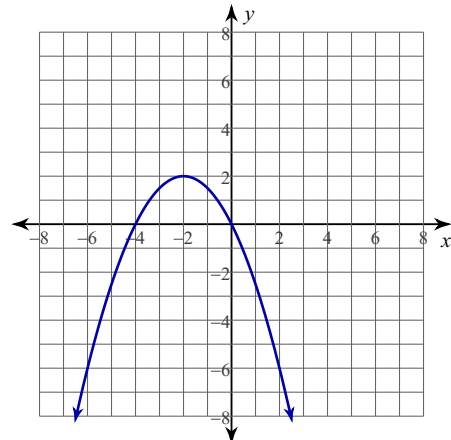
9) Family: Absolute Value

Parent function:  $y = |x|$   
 Shift up 1  
 Shift left 2  
 Vertical stretch 3 times as steep



10) Family: Quadratic

Parent function:  $y = x^2$   
 Shift up 2  
 Shift left 2  
 Flipped  
 Vertical shrink  $\frac{1}{2}$  as steep



11) Family: Square Root

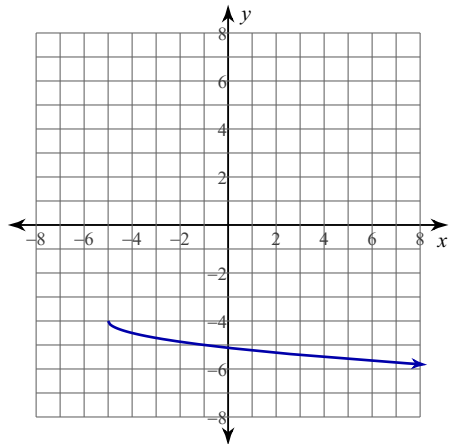
Parent function:  $y = \sqrt{x}$

Shift down 4

Shift left 5

Flipped

Vertical shrink  $\frac{1}{2}$  as steep

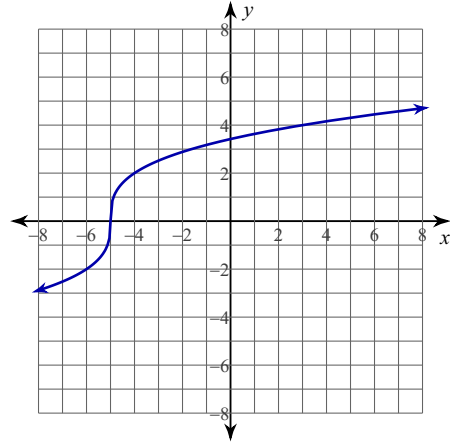


12) Family: Cube Root

Parent function:  $y = \sqrt[3]{x}$

Shift left 5

Vertical stretch 2 times as steep



13) Parent function: cubic

Shift up 3

Shift left 1

Vertical stretch 2

$$f(x) = 2(x + 1)^3 + 3$$

14) Parent function: Quadratic

Shift right 4

Vertical stretch 4

$$f(x) = -4(x - 4)^2$$