

Alg 2

Fcn Forms

WS 3 - Transformations

* Note you had to identify the parent fcn, NOT the family. Cover up $a, b, h + k$ in the equation + you'll have your parent fcn.

1. $y = (\frac{1}{3})^x$ $a = \frac{1}{3}$ $b = -1$ $h = 9$ $k = 2$ New HA: $y = 2$
Vertical shrink of $\frac{1}{3}$, Horizontal Reflection, Translation 9R, 2U

2. $y = x^3$ $a = 1, b = 1$ $h = -7$ $k = 3$ Translation 7L, 3U

3. $y = |x|$ $a = -1$ $b = 2$ $k = -3$ Vertical reflection, Horizontal shrink of $\frac{1}{2}$, Translation 3D $\leftarrow$
 $h = 0$

4. $y = x^{\frac{2}{5}}$ $a = \frac{2}{5}$ $b = 1$ $k = 8$ Vertical shrink of $\frac{2}{5}$, Translation 8U
 $h = 0$

5. $y = \sqrt{x}$ $a = -1$ $h = 8$ Vertical reflection, Translation 8R
 $b = 1$ $k = 0$

6. $y = x^2$ $a = \frac{1}{5}$ $h = 4$ $k = 1$ Vertical shrink of $\frac{1}{5}$, Translation 4R, 1U
 $b = 1$

7. $y = \sqrt[3]{x}$ $b = 3$ $h = -1$ $k = 7$ Horizontal shrink of $\frac{1}{3}$, Translation 1L, 7U
 $a = 1$

8. $y = 2^x$ $a = 1$ $k = 0$ $b = 4$ $h = -10$ Horizontal shrink of $\frac{1}{4}$, Translation 10L
(no k , so no new asymptote)
($k = 0$)

9. $y = \log x$ $a = \frac{2}{11}$ $k = 10$ Vertical shrink of $\frac{2}{11}$, Translation (no h , ($h = 0$), so no new asymptote) 10U

10. $y = x^5$ $a = \frac{1}{3}$ $k = -2$ Vertical shrink of $\frac{1}{3}$, Translation 2D
 $b = 1$ $h = 0$