

KEY

Power Functions and their Graphs

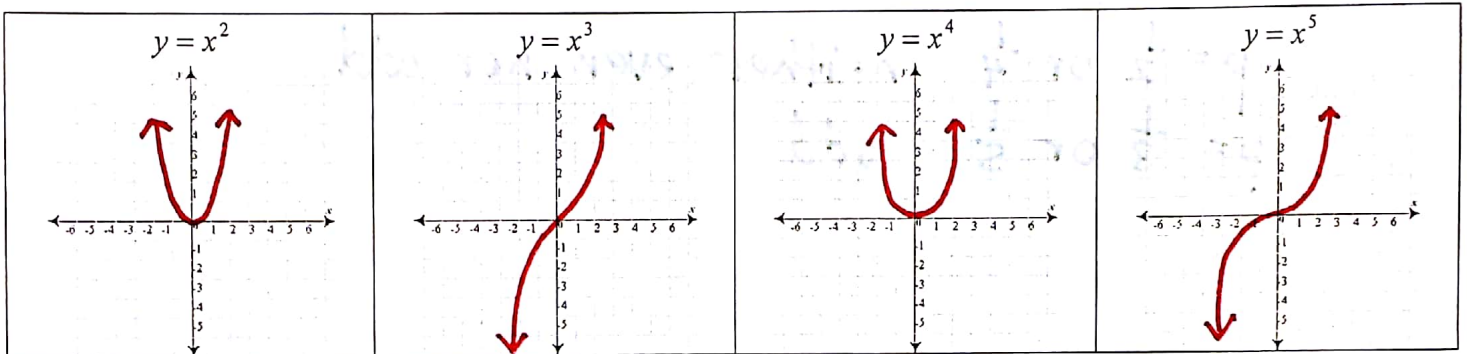
I. Identifying power functions and their graphs

Power Function - $y = K \cdot x^p$, K and p are constants

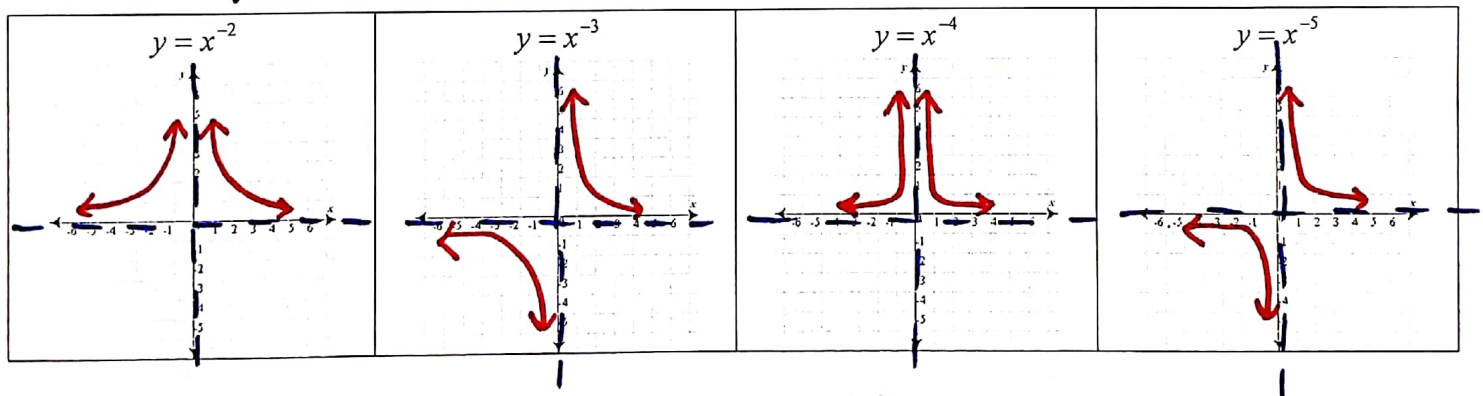
Which of the following are power functions?

$y = x^2$	$y = 1 \cdot x^2$ Yes	$y = x^4 + 2$ No	$y = (x-2)^2$ No
$y = 4x^{\frac{3}{5}}$ Yes	$y = \frac{k}{x^4}$	$y = Kx^{-4}$ Yes	$y = x^{-2} + 2$ No

Sketch a graph of each of the following functions and answer the corresponding questions.

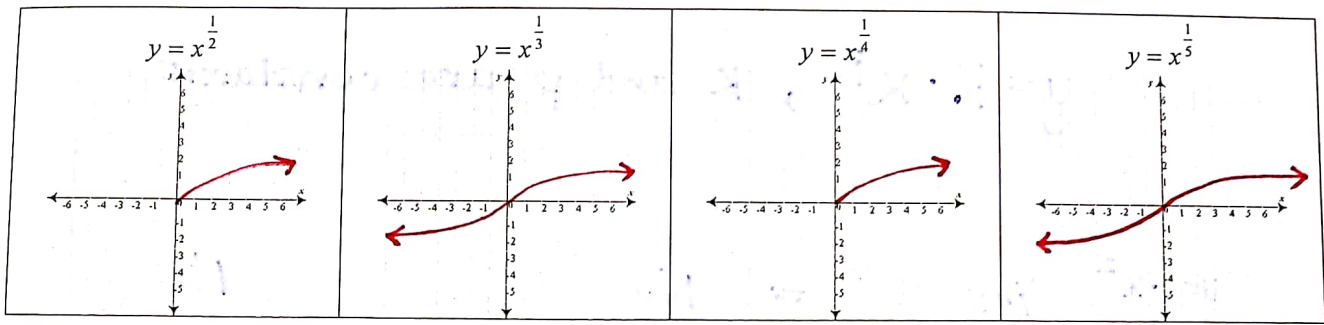


* How do the even exponents differ from the odd exponents? odd \rightarrow odd functions
even \rightarrow parabolic, even functions



* How do the negative exponents differ from a positive exponent? dif. shape
negative \rightarrow asymptotes, discontinuous

* When the exponents are negative, how do the even exponents differ from the odd exponents? _____
even \rightarrow even function
odd \rightarrow odd function



* How do the fractional exponents differ from the integer exponents? _____

graphs are sideways

* When the exponents are fractional, how do the even exponents differ from the odd exponents? _____

$p = \frac{1}{2}$ or $\frac{1}{4}$ neither even nor odd

$p = \frac{1}{3}$ or $\frac{1}{5}$ odd

