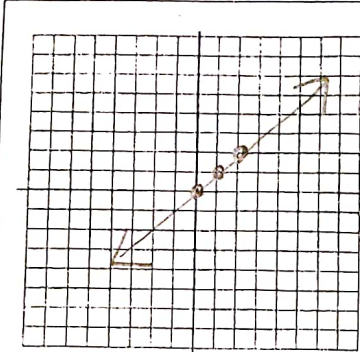
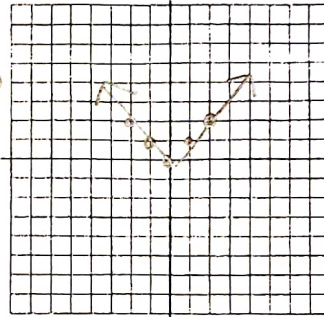


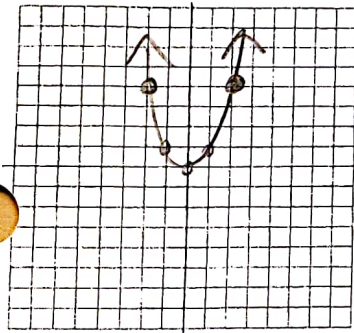
For each of the following, sketch a graph and give the indicated information.



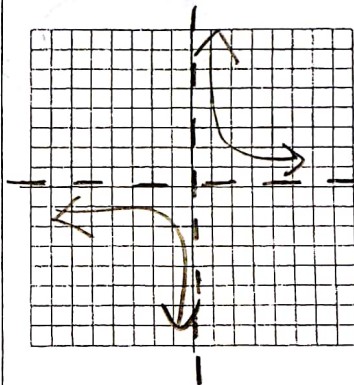
1.  $f(x) = x$   
 Domain  $\{x | x \in \mathbb{R}\}$   
 Range  $\{y | y \in \mathbb{R}\}$   
 Roots  $(0, 0)$   
 Symmetry origin  
 Even/Odd odd  
 Periodic no  
 One-to-one yes



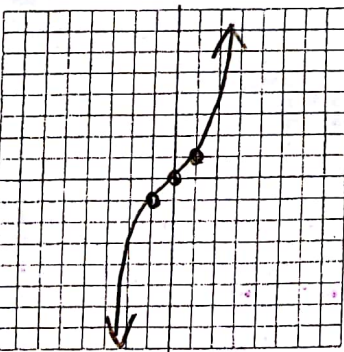
4.  $f(x) = |x|$   
 Domain  $(-\infty, \infty)$   
 Range  $[0, \infty)$   
 Roots  $(0, 0)$   
 Symmetry y-axis  
 Even/Odd even  
 Periodic no  
 One-to-one no



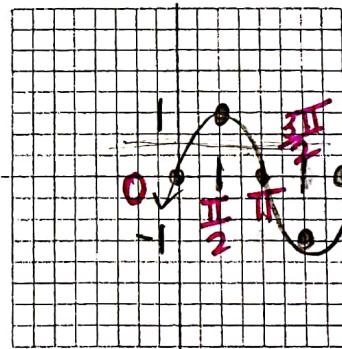
2.  $f(x) = x^2$   
 Domain  $(-\infty, \infty)$   
 Range  $[0, \infty)$   
 Roots  $(0, 0)$   
 Symmetry y-axis  
 Even/Odd even  
 Periodic no  
 One-to-one no



5.  $f(x) = \frac{1}{x}$   
 Domain  $(-\infty, 0) \cup (0, \infty)$   
 Range  $(-\infty, 0) \cup (0, \infty)$   
 Roots none  
 Symmetry origin  
 Even/Odd odd  
 Periodic no  
 One-to-one yes



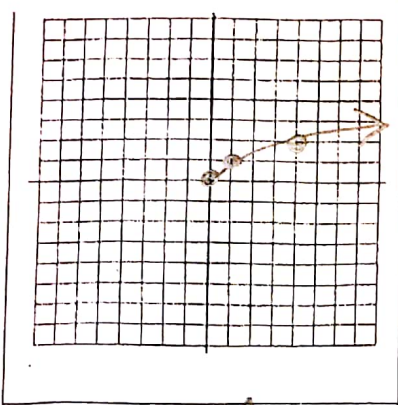
3.  $f(x) = x^3$   
 Domain  $(-\infty, \infty)$   
 Range  $(-\infty, \infty)$   
 Roots  $(0, 0)$   
 Symmetry origin  
 Even/Odd odd  
 Periodic no  
 One-to-one yes



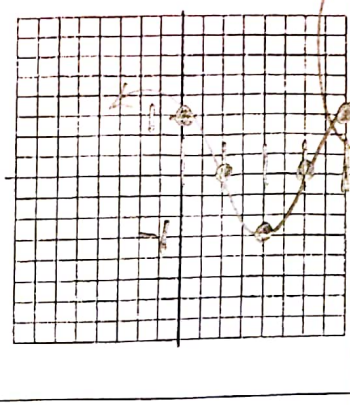
6.  $f(x) = \sin x$   
 Domain  $(-\infty, \infty)$   
 Range  $[-1, 1]$   
 Roots  $(k\pi, 0)$   
 Symmetry origin  
 Even/Odd odd  
 Periodic yes  
 One-to-one no

Review Parent Functions  
AP Calculus AB Unit 1

Name: \_\_\_\_\_  
Date: \_\_\_\_\_  $\rightarrow \frac{k\pi}{2} + k\pi$

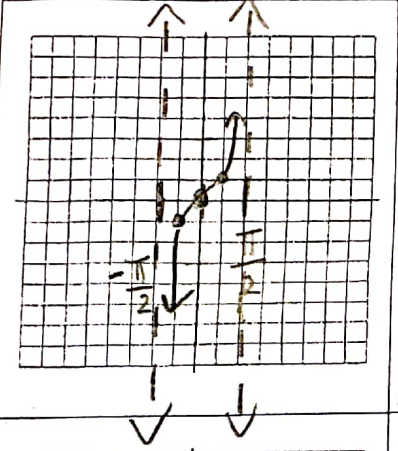


7.  $f(x) = \sqrt{x}$   
Domain  $[0, \infty)$   
Range  $[0, \infty)$   
Roots  $(0, 0)$   
Symmetry none  
Even/Odd none  
Periodic no  
One-to-one yes



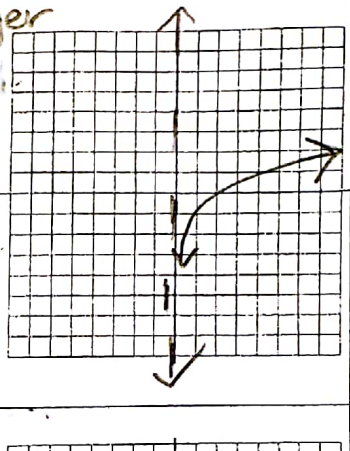
10.  $f(x) = \cos x$   
Domain  $(-\infty, \infty)$   
Range  $[-1, 1]$   
Roots  $(\frac{k\pi}{2}, 0)$   
Symmetry y-axis  
Even/Odd even  
Periodic yes  
One-to-one no

$k$  is an odd integer

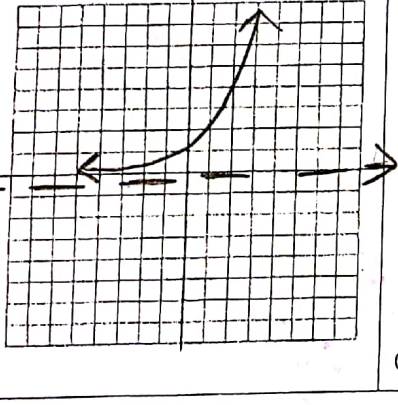


8.  $f(x) = \tan x$   
Domain  $\{x \mid x \neq \frac{k\pi}{2}\}$   
Range  $(-\infty, \infty)$   
Roots  $(k\pi, 0)$   
Symmetry origin  
Even/Odd odd  
Periodic yes  
One-to-one no

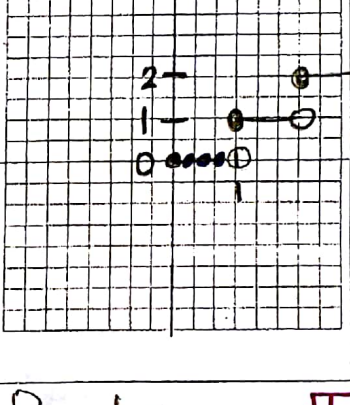
$k$  is odd integer



11.  $f(x) = \ln x$   
Domain  $(0, \infty)$   
Range  $(-\infty, \infty)$   
Roots  $(1, 0)$   
Symmetry none  
Even/Odd neither  
Periodic no  
One-to-one yes



9.  $f(x) = e^x$   
Domain  $(-\infty, \infty)$   
Range  $(0, \infty)$   
Roots none  
Symmetry none  
Even/Odd none  
Periodic none  
One-to-one yes



12.  $f(x) = [x]$   
Domain  $(-\infty, \infty)$   
Range  $k, k$  is integer  
Roots  $(0, 0)$   
Symmetry none  
Even/Odd no  
Periodic no  
One-to-one no

$k$  is integer  $k \in \mathbb{Z}$

Roots  $[0, 1)$

$[x]$   $\lfloor x \rfloor$   
int + (x)