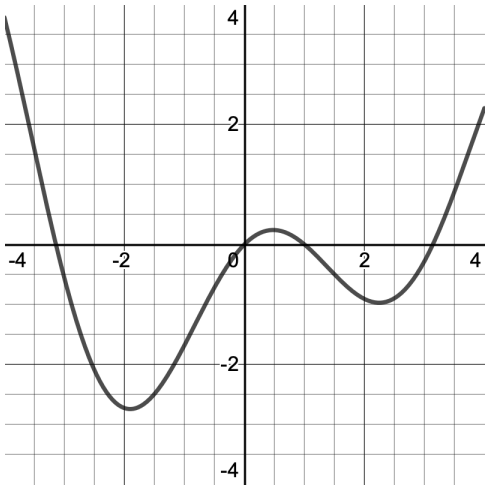
AP Calculus AB/BC Summer Work Name _____



1. Identify the indicated points or intervals for the graph shown in the figure above. Note: There might be some terms that mean the same thing! Estimate where necessary. If the function does not contain a particular element, write "none".

_____ Intervals on which the function is positive

_____ Intervals on which the function is increasing

_____ Intervals on which the function is negative

_____ Intervals on which the function is decreasing

_____ Zeros of the function

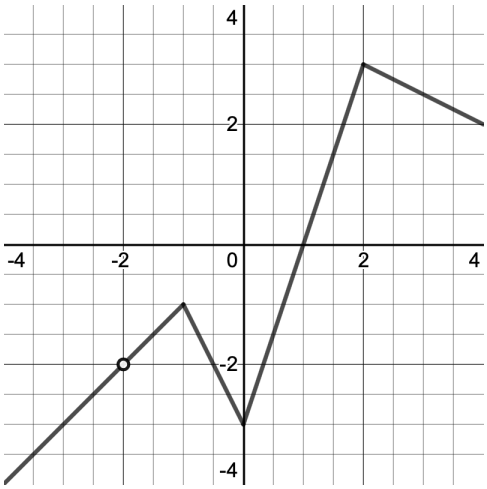
_____ x-Intercept(s)

_____ y-Intercept

_____ Horizontal asymptote(s)

_____ Vertical asymptote(s)

_____ Point(s) where the function is not continuous



2. Identify the indicated points or intervals for the graph shown in the figure above. Note: There might be some terms that mean the same thing! Estimate where necessary. If the function does not contain a particular element, write "none".

_____ Intervals on which the function is positive

_____ Intervals on which the function is increasing

_____ Intervals on which the slope of the function is positive

_____ Intervals on which the function is negative

_____ Intervals on which the function is decreasing

_____ Intervals on which the slope of the function is negative

_____ Zeros of the function

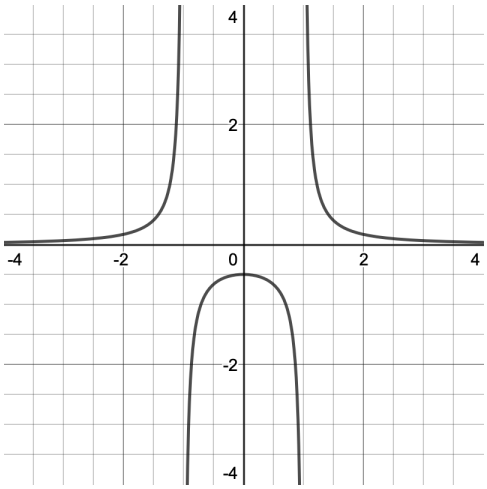
_____ x-Intercept(s)

_____ y-Intercept

_____ Horizontal asymptote(s)

_____ Vertical asymptote(s)

_____ Point(s) where the function is not continuous



3. Identify the indicated points or intervals for the graph shown in the figure above. Note: There might be some terms that mean the same thing! Estimate where necessary. If the function does not contain a particular element, write "none".

_____ Intervals on which the function is positive

_____ Intervals on which the function is increasing

_____ Intervals on which the function is negative

_____ Intervals on which the function is decreasing

_____ Zeros of the function

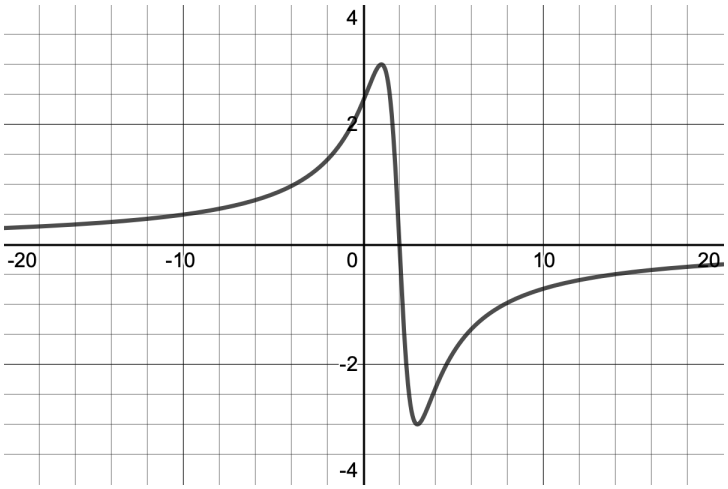
_____ x-Intercept(s)

_____ y-Intercept

_____ Horizontal asymptote(s)

_____ Vertical asymptote(s)

_____ Point(s) where the function is not continuous



4. Identify the indicated points or intervals for the graph shown in the figure above. Note: There might be some terms that mean the same thing! Estimate where necessary. If the function does not contain a particular element, write "none".

_____ Intervals on which the function is positive

_____ Intervals on which the function is increasing

_____ Intervals on which the function is negative

_____ Intervals on which the function is decreasing

_____ Zeros of the function

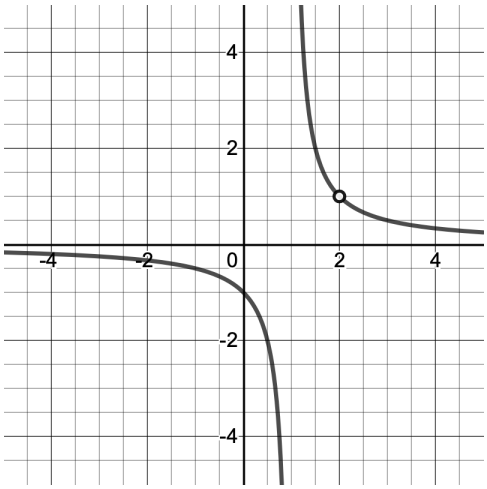
_____ x-Intercept(s)

_____ y-Intercept

_____ Horizontal asymptote(s)

_____ Vertical asymptote(s)

_____ Point(s) where the function is not continuous



5. Identify the indicated points or intervals for the graph shown in the figure above. Note: There might be some terms that mean the same thing! Estimate where necessary. If the function does not contain a particular element, write "none".

_____ Intervals on which the function is positive

_____ Intervals on which the function is increasing

_____ Intervals on which the function is negative

_____ Intervals on which the function is decreasing

_____ Zeros of the function

_____ x-Intercept(s)

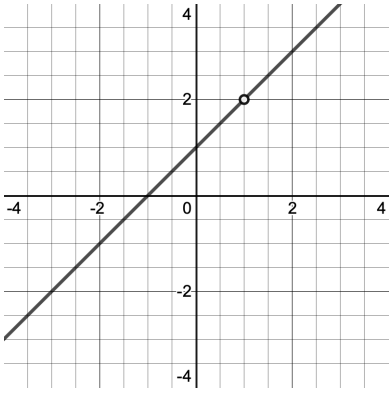
_____ y-Intercept

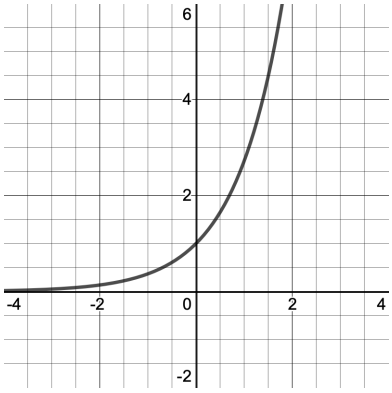
_____ Horizontal asymptote(s)

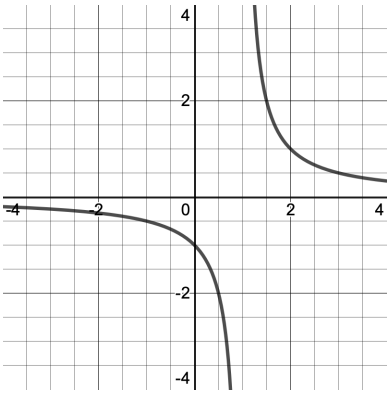
_____ Vertical asymptote(s)

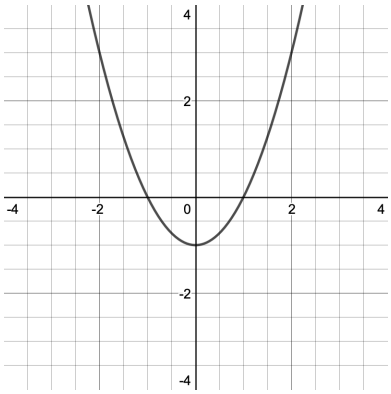
_____ Point(s) where the function is not continuous

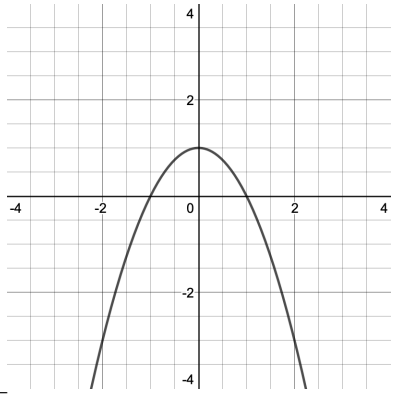
Select a function that matches each of the graphs below. Not all of the functions will be used.

6. _____ 

7. _____ 

8. _____ 

9. _____ 

10. _____ 

(A) $y = x + 1$

(B) $y = e^x$

(C) $y = x^2$

(D) $y = \dfrac{x^2 - 1}{x + 1}$

(E) $y = 1 - x^2$

(F) $y = x^2 - 1$

(G) $y = \dfrac{x^2 - 1}{x - 1}$

(H) $y = \dfrac{1}{x - 1}$