CALCULUS I  
Spring, 2000

QUIZ 1

Directions. Please enter the final answer only in the appropriate box. You must show all work to receive credit.

1. Find the domain of: \( f(x) = \sqrt{x^2 + x - 6} \). (2 pt)

\[
(x+3)(x-2)=0 \\
x=-3 \quad x=2
\]

\[\text{ Domain: } x \leq -3 \text{ or } x \geq 2 \frac{3}{2} \]

1 pt interval 
1 pt include endpts

2. Determine whether the given curve is the graph of a function of x. If it is, state the domain. (2 pt)

No
3. Next to each graph, write the number of the function which is represented (3 pt each)

(a)  
   i. $y = e^{x-2}$  
   ii. $y = e^{x+2}$  
   iii. $y = e^x + 2$  
   iv. $y = e^x - 2$

(b)  
   i. $y = \sin(x/2)$  
   ii. $y = \frac{1}{2} \sin(x)$  
   iii. $y = 2 \sin(x)$  
   iv. $y = \sin(2x)$

Answer:

- (a) i
- (b) iv
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QUIZ 1

Directions. Please enter the final answer only in the appropriate box. You must show all work to receive credit.

1. Find the domain of: \( f(x) = \sqrt{x^2 + x - 6} \). (2 pt)

\( x \in (-\infty, -3] \text{ or } [2, \infty) \)

1 pt interval
1 pt incl. endpt

2. Determine whether the given curve is the graph of a function of \( x \). If it is, state the domain. (2 pt)

Yes. \( \exists \times | x \in [-3, 2] \}

1 pt Yes
1 pt Domain
3. Next to each graph, write the number of the function which is represented. (3 pt each)

(a) i. \( y = e^{x-2} \)
   ii. \( y = e^{x+2} \)
   iii. \( y = e^x + 2 \)
   iv. \( y = e^x - 2 \)

(b) i. \( y = \sin(x/2) \)
   ii. \( y = 1/2 \sin(x) \)
   iii. \( y = 2 \sin(x) \)
   iv. \( y = \sin(2x) \)