Author 1	Day 2
Author 2	
Author 3	
Author 4	

## Group Work 15

**1.** The graph of f(x) is below.



(a) What is the minimum value for f on [-3, 5]?

- (b) What is the maximum value for f on [-3, 5]?
- (c) What is the minimum value for f on [0, 3.5]?
- (d) What is the maximum value for f on [0, 3.5]?

- (e) What is the minimum value for f on (0, 3.5)?
- (f) What is the maximum value for f on (0, 3.5)?
- (g) What is the minimum value for f on  $(-\infty, \infty)$ ?
- (h) What is the maximum value for f on  $(-\infty, \infty)$ ?
- **2.** Let f(x) be the same as in the previous problem.
  - (a) Find all x-values where f has a local minimum.
  - (b) Find all x-values where f has a local maximum.

3. Find all absolute and local extrema for the following by graphing.

(a) 
$$f(x) = x^2$$





Abs. min:

Abs. max:

Abs. min:

Local min's:









Abs. min:

(d)  $f(x) = \sin x$ 



Abs. max:

Local max's:

Local min's:

Local min's:



Local min's:

4. Find the absolute extrema of  $f(x) = x^2 e^{-3x}$  on [-1, 1].

Local max's: