**Section 2.3**

Domain:

Range:

Increasing:

Decreasing:

Domain:

Range:

Increasing:

Decreasing:

1. The graph of a function is given. Use the graph to estimate the domain, range, intervals on which is increasing and on which is decreasing. Write your answer using interval notation.

a. b.

 

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a. Domain:

Range:

Increasing:

Decreasing:

b. Domain:

Range:

Increasing:

Decreasing:

3. A function is given. Use a graphing calculator to draw the graph of . Then find the domain and range of . Also, state the intervals on which is increasing and on which is decreasing. Write you answers using interval notation.

a.

b.

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a. 

b. 

2. The graph of a function is given. Use the graph to estimate the domain, range, intervals on which is increasing and on which is decreasing. Write your answer using interval notation.



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4. A function is given. Use a graphing calculator to draw the graph of . Then find the domain and range of . Also, state the intervals on which is increasing and on which is decreasing. Write you answers using interval notation.

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6. Find , and the difference quotient , where .

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6. The graph of a function is given. Use the graph to estimate all the local maximum and minimum values of the function and the value of at which each occurs. Then find the intervals on which the function is increasing and on which the function is decreasing. Write you answers using interval notation.

a. 

b. 

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5. The graph of a function is given. Use the graph to estimate all the local maximum and minimum values of the function and the value of at which each occurs. Then find the intervals on which the function is increasing and on which the function is decreasing. Write you answers using interval notation.



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local maximum: (smaller -value)

local maximum: (larger -value)

local minimum: (smaller -value)

local minimum: (larger -value)

increasing:

decreasing: