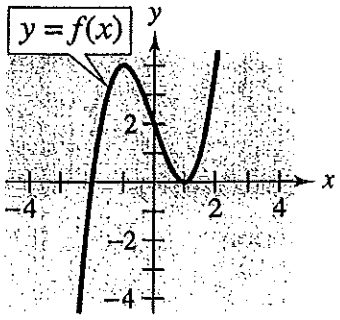
MAT 161 – CLASS NOTES – Sections 2.1b & 2.2b: Functions and Their Graphs

1) Use the graph of the function to find the indicated function values.



a) $f(-1)$

b) $f(2)$

c) $f(0)$

d) $f(1)$

e) What value(s) of x is $f(x)=1$?

f) Find the x-intercepts.

g) Find the y-intercept.

h) Values of x for which $f(x)\geq 0$

i) Values of x for which $f(x)<0$

2) **Domain** – set of all x-coordinates – interval of x-values that have a y-coordinate – left to right – negative to positive.

3) **Range** – set of all y-coordinates – interval of y-values that are on the graph – bottom to top – negative to positive.

4) **Intervals over which f is increasing, decreasing, or constant** –

   interval of x over which the y values are increasing, decreasing, or constant. Remember to read the graph from left to right.

5) Use the graph of the function to find the domain and range of f and determine the intervals over which the function is increasing, decreasing, or constant.

   a) Domain:

   Range:

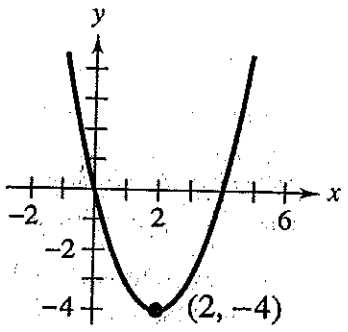
   Increasing:

   Decreasing:

   Constant:

   the number at which has a relative minimum:

   the relative minimum:



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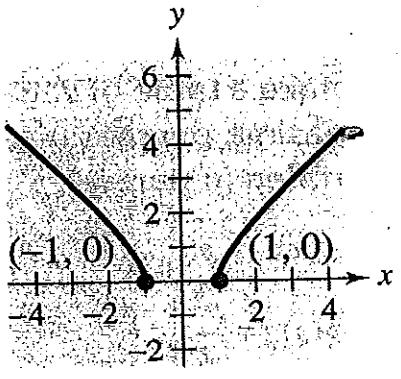
   b) Domain:

   Range:

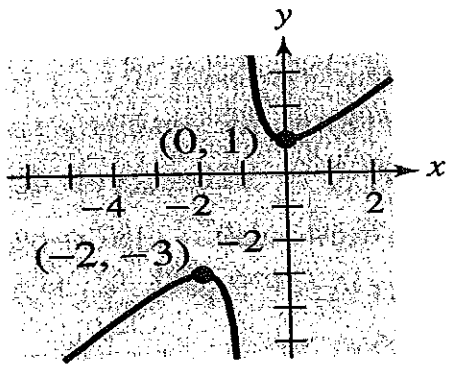
   Increasing:

   Decreasing:

   Constant:



c) Domain:



Range:

Increasing:

Decreasing:

Constant:

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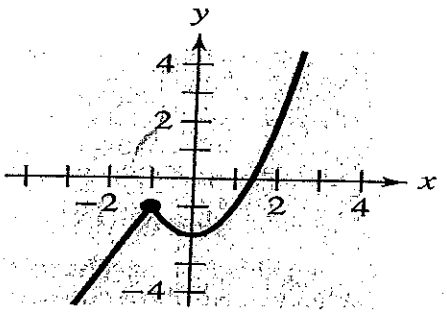
d) Domain:



Range:

Increasing:

Decreasing:

Constant:

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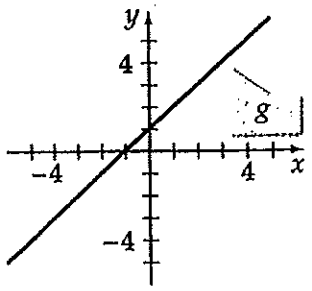
e) Domain:



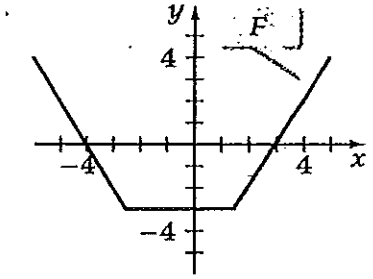
Range:

Increasing:

Decreasing:

Constant:

f) Domain:



Range:

Increasing:

Decreasing:

Constant:

x-intercept(s):

y-intercept:

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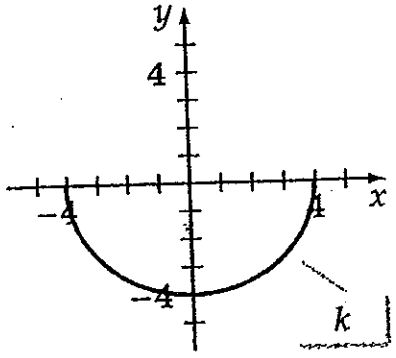
g) Domain:



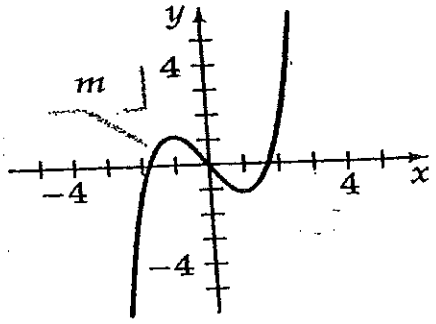
Range:

Increasing:

Decreasing:

Constant:

h) Domain:



Range:

Increasing:

Decreasing:

Constant:

$f(1)$

$f(-1)$

What value(s) of x is $m(x)=1$?

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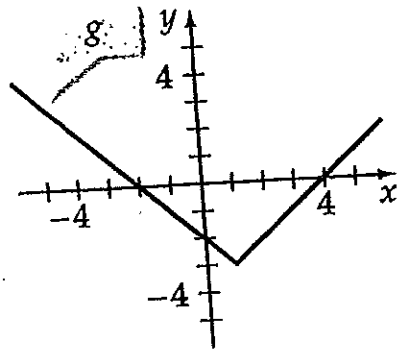
i) Domain:



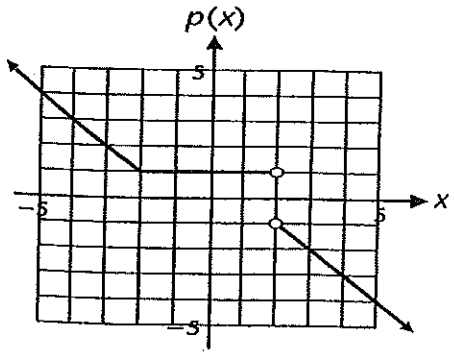
Range:

Increasing:

Decreasing:

Constant:

j) Domain:



Range:

Increasing:

Decreasing:

Constant:

x-intercept(s):

y-intercept: