**LIMITS AND CONTINUITY**

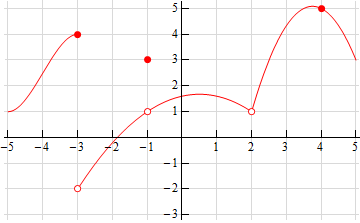
1. For the graphs shown below state the value of for which: (i) does not exist.

ii)  is not continous. (iii)  has a removable discontinuity. (iv)  has a jump discontinuity. (v)has an asymptote. (1 mark)

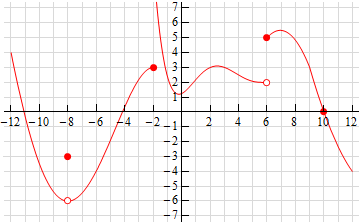


**LIMITS FROM A SKETCH**

1. Below is the graph of  For each of the given points, determine the value of and. If any of the quantities do not exist, clearly explain why.
2. .
3. .
4. .
5. .



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3. .



1. .
2. .
3. .

**LIMITS N CONTINUITY FOR PIECEWISE DEFINED FNS**

Given the function  ,

1. Sketch the graph. (2 marks)
2. Find . (1 mark)
3. At what points if any is  not continuous. Give reasons for

your answer and state the type of discontinuity at stated point. (3 marks)

1. Given the function  ,
2. Sketch the graph. (2 marks)
3. Find . (1 mark)
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1. Given the function  ,
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your answer and state the type of discontinuity at stated point. (3 marks)

1. Find all the real numbers for which  is undefined. 2 marks.
2. For what values of *x* is the function continuous ? 3 marks
3. Determine if the following functions are continous at the stated point.
   * 1. 
     2. 
     3. 
     4. 
     5. 
     6. 
     7. 
     8. 
     9. 
     10. 
     11. 
     12. at x = 1, and x = 3.
4. Find all values  of that guarantee that exists for the function



1. Determine where the following function is discontinuous: . 3 marks