

# HOMework: TRANSFORMATIONS

NAME: \_\_\_\_\_ DAY 5 DUE: \_\_\_\_\_

1. Match each graph to the function.

## Exercises

In Problems 7-18, match each graph to one of the following functions.

A.  $y = x^2 + 2$

B.  $y = -x^2 + 2$

C.  $y = |x| + 2$

D.  $y = -|x| + 2$

E.  $y = (x - 2)^2$

F.  $y = -(x + 2)^2$

G.  $y = |x - 2|$

H.  $y = -|x + 2|$

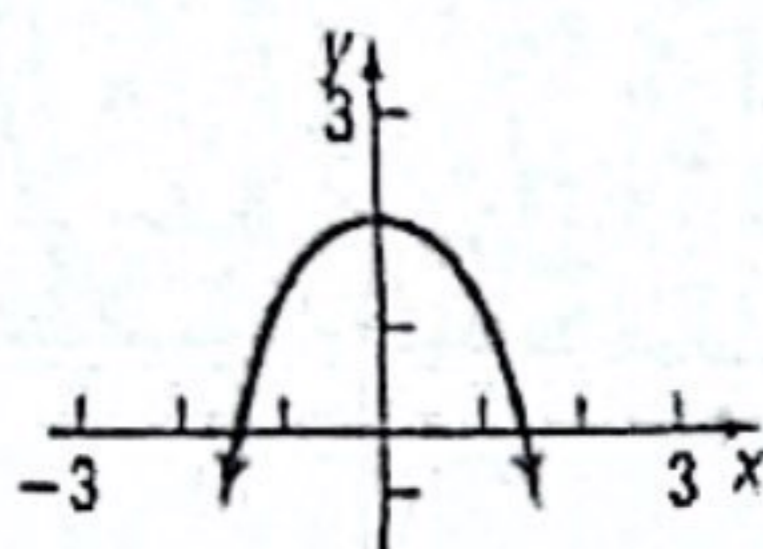
I.  $y = 2x^2$

J.  $y = -2x^2$

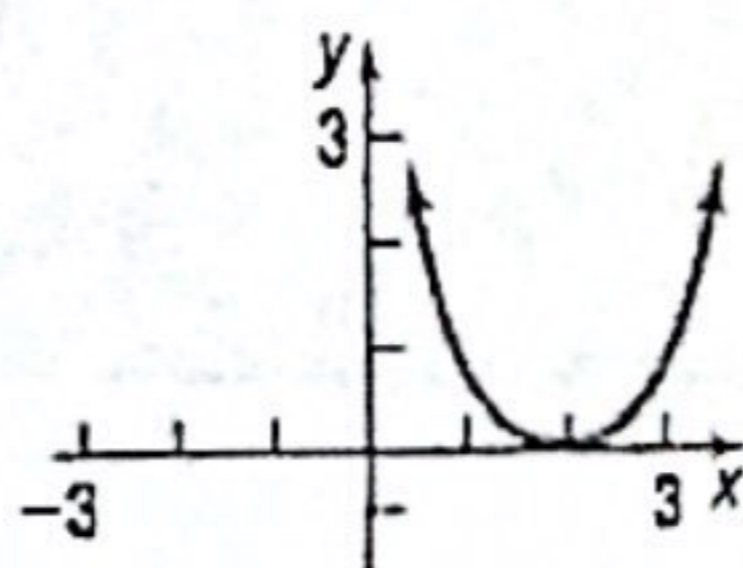
K.  $y = 2|x|$

L.  $y = -2|x|$

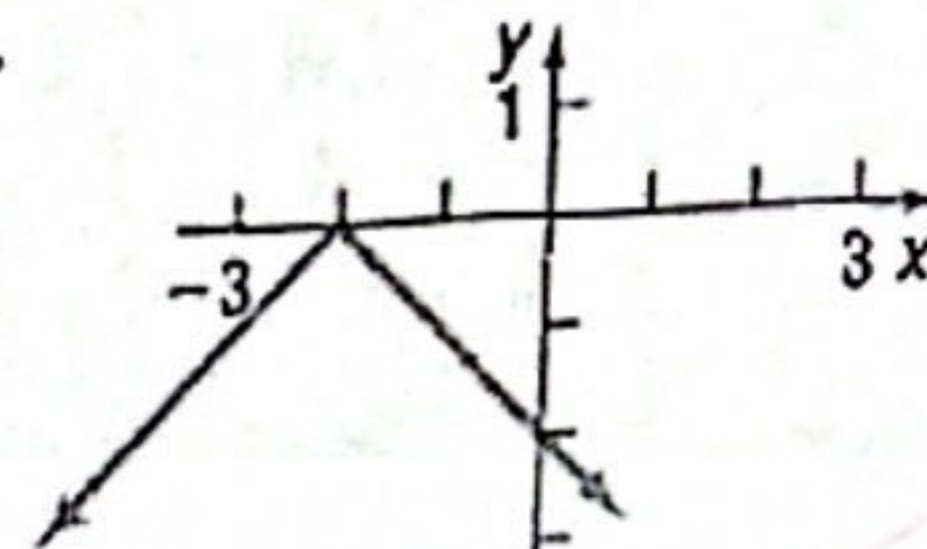
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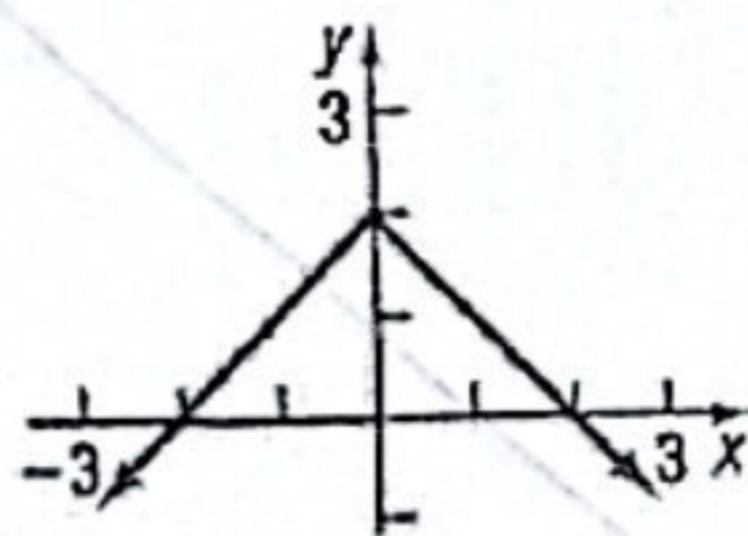
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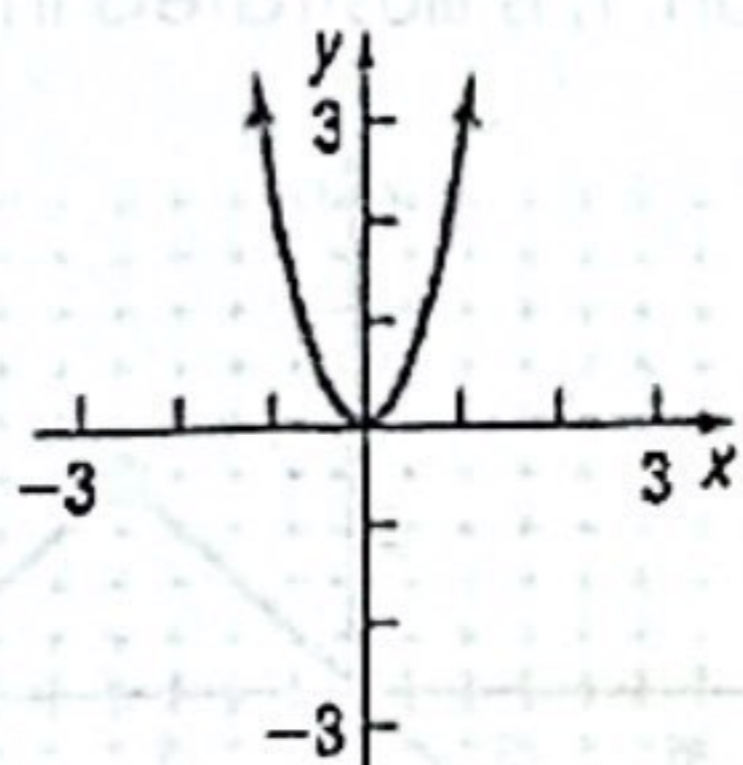
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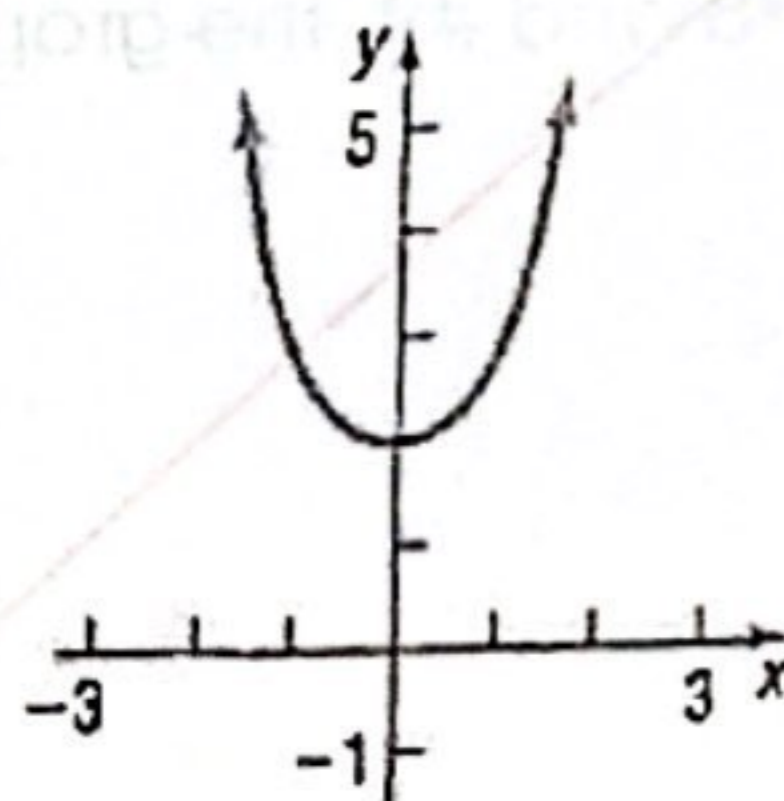
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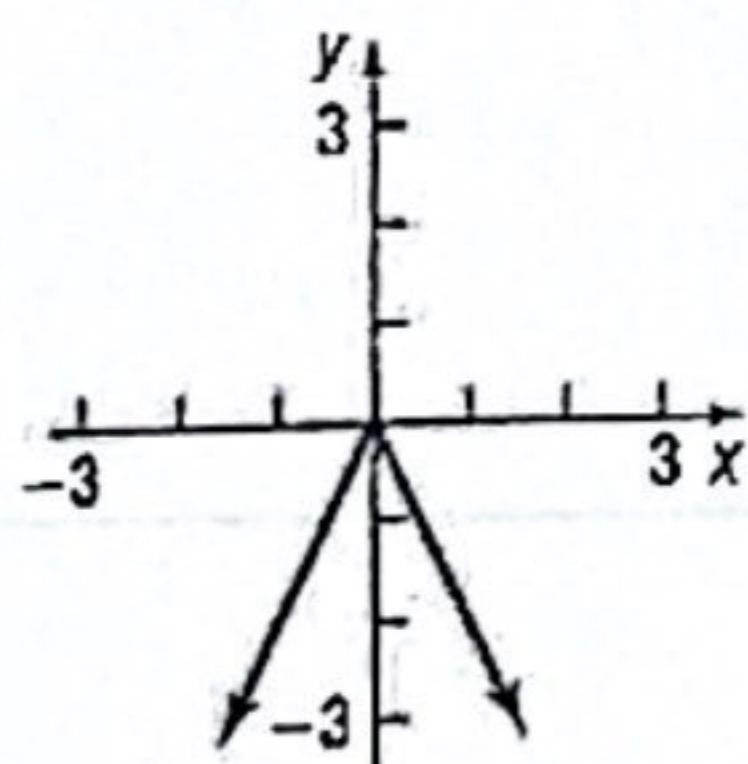
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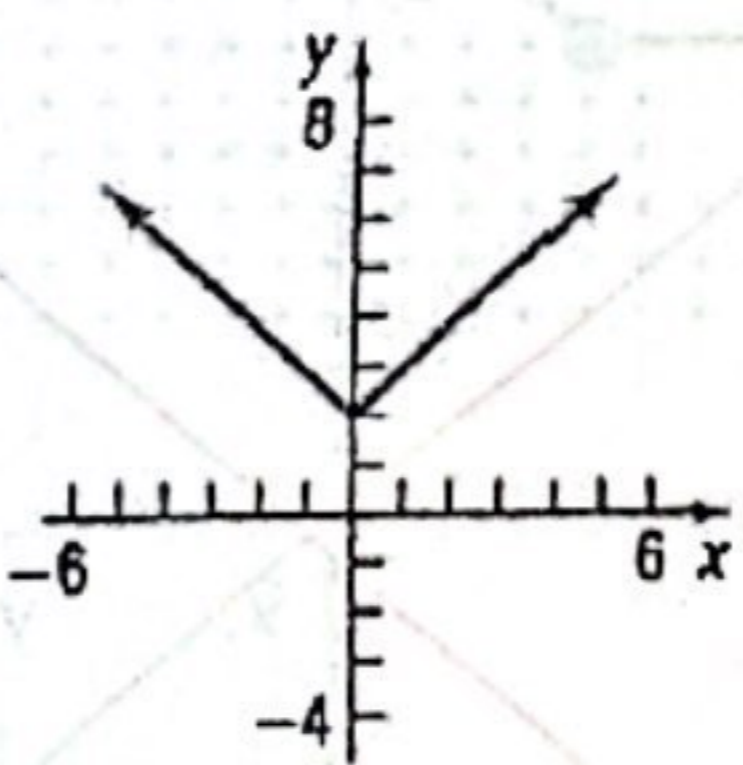
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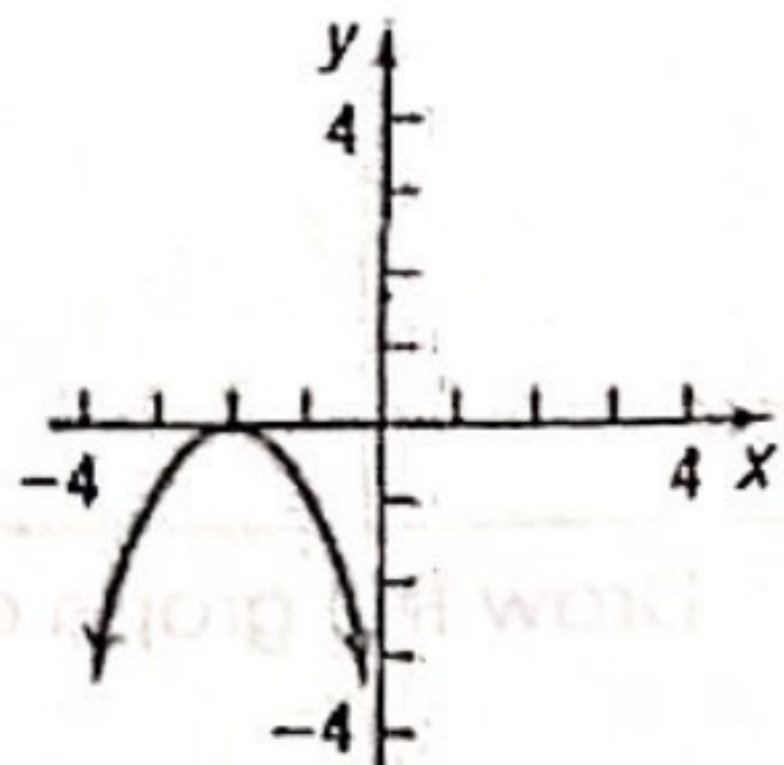
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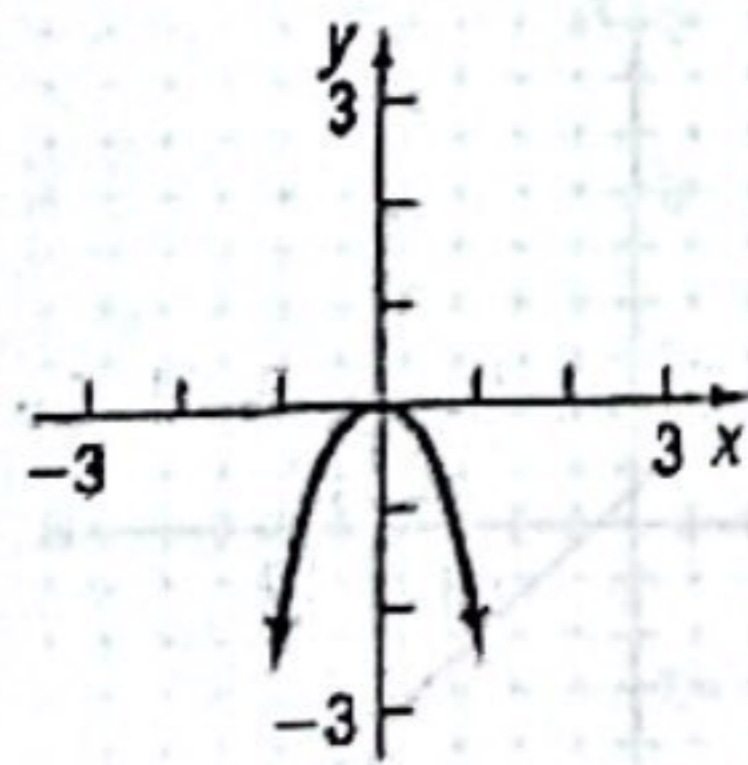
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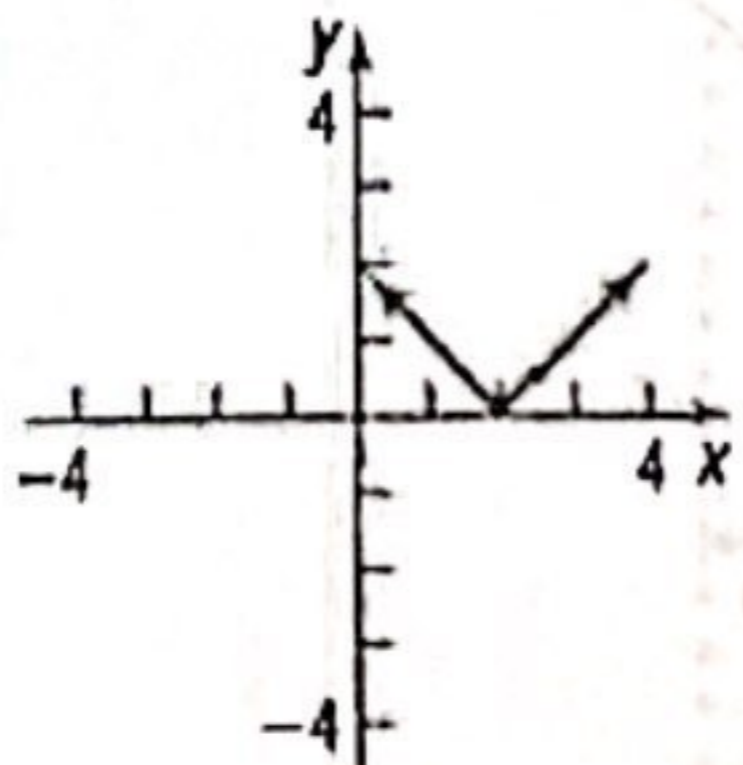
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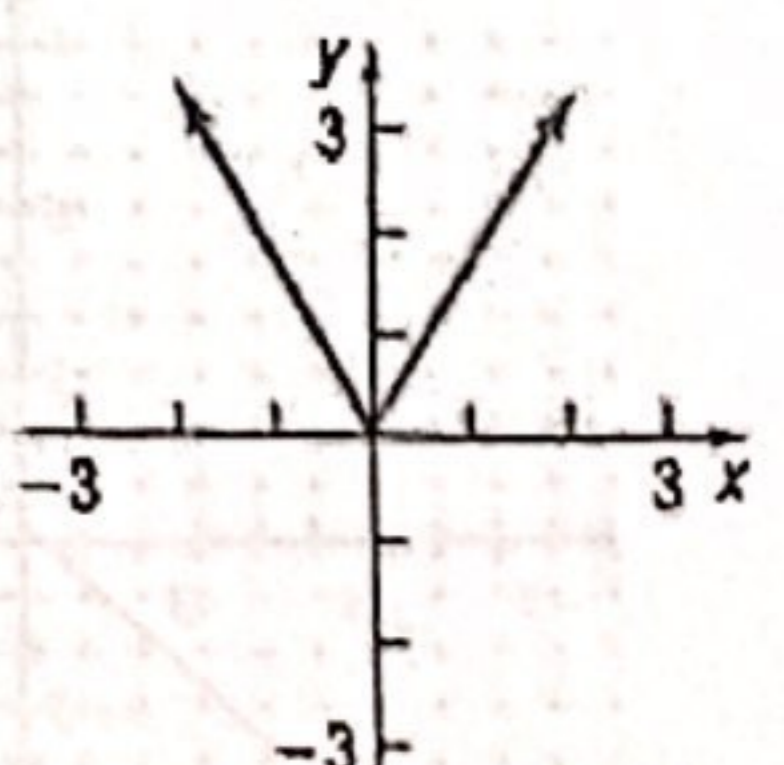
16.



17.



18.



$$y = x^2$$

If  $y = x^2$  is transformed as described below, write the new function.

2. Shifted right 4 units	3. Shifted up 4 units
4. Reflected about the y-axis	5. Vertically stretched by a factor of 4

If  $y = \sqrt{x}$  is transformed as described below, write the new function.

6. Shifted up 2 units. Reflect about the x-axis. Reflect about the y-axis.	7. Reflect about the x-axis. Shift up 2 units. Shift left 3 units.
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DO ALL OF THE PROBLEMS ON THE PAGE, 1-10

## EXERCISES:

Write the following inequalities in interval notation and graph it.

1.  $x \leq 3$

2.  $-2 < x \leq 4$

3.  $-9 \leq x \leq 0$

4.  $x > -4$

5.  $x < -3$

6.  $x \geq 6$

Express each of the following intervals in set-builder notation.

7.  $(2, 8)$

8.  $[-5, 0)$

9.  $(3, \infty)$

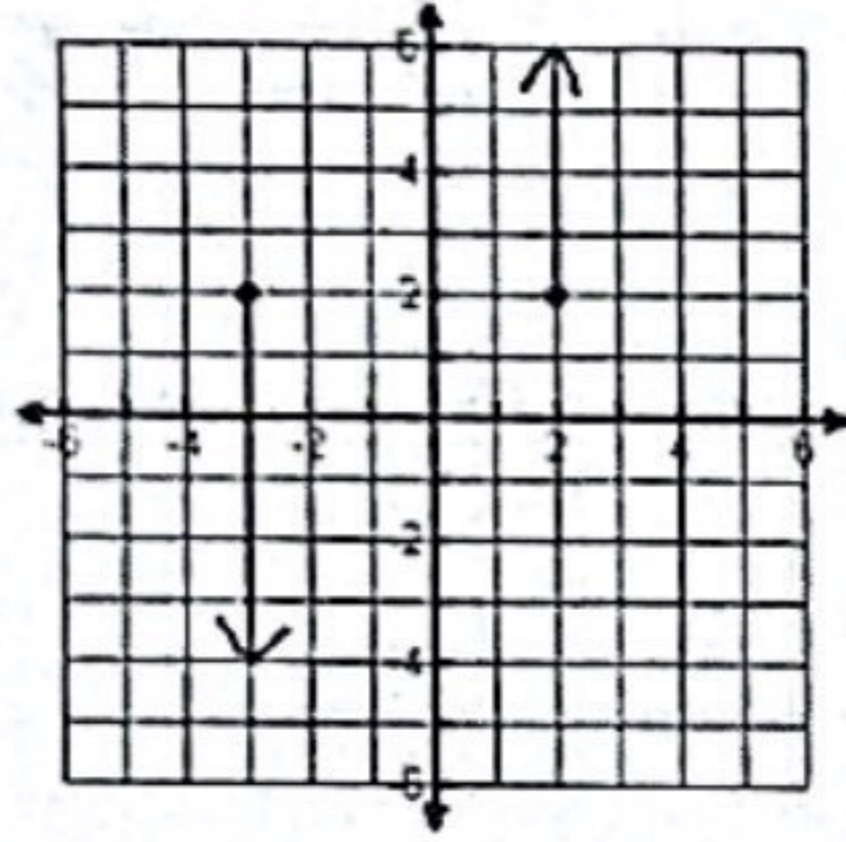
10.  $(-\infty, -4]$

DO PROBLEMS 1 - 6 ON THIS PAGE

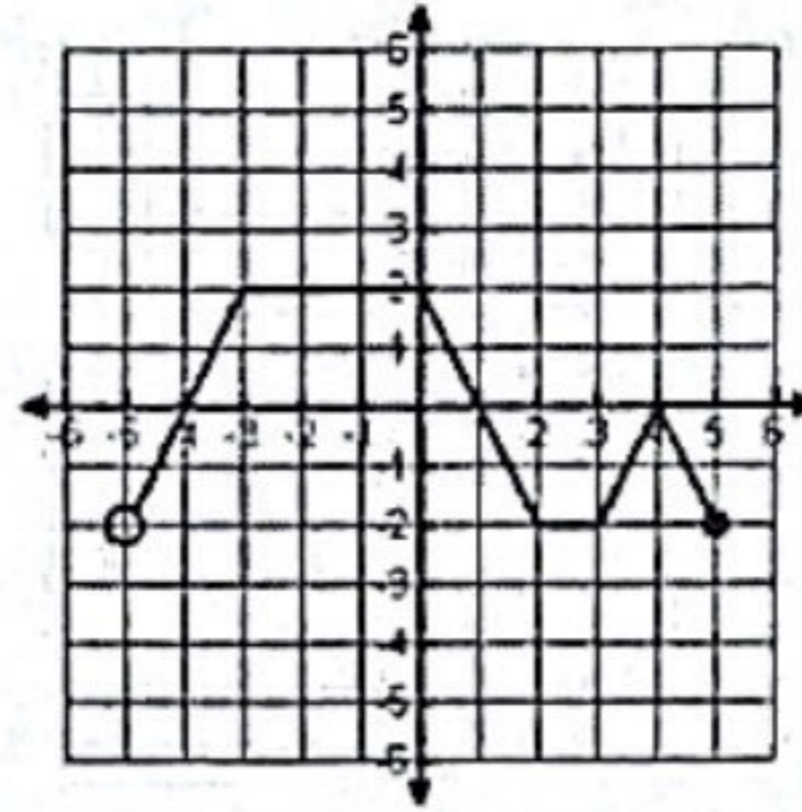
Domain and Range Worksheet #1

Name: \_\_\_\_\_

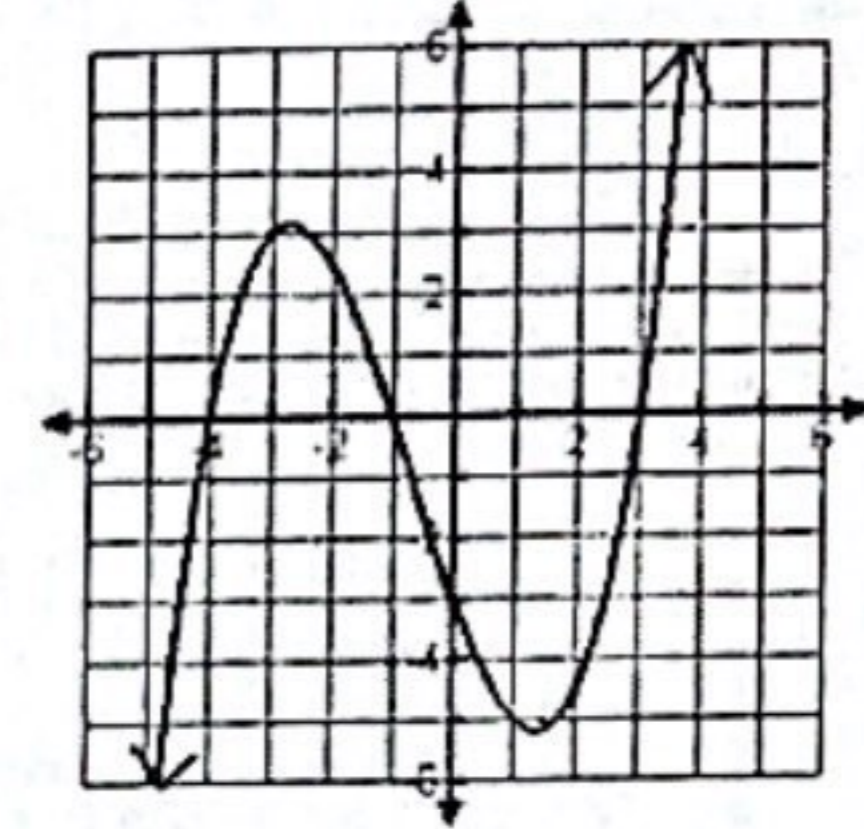
State the domain and range for each graph and then tell if the graph is a function (write yes or no).  
If the graph is a function, state whether it is discrete, continuous or neither.



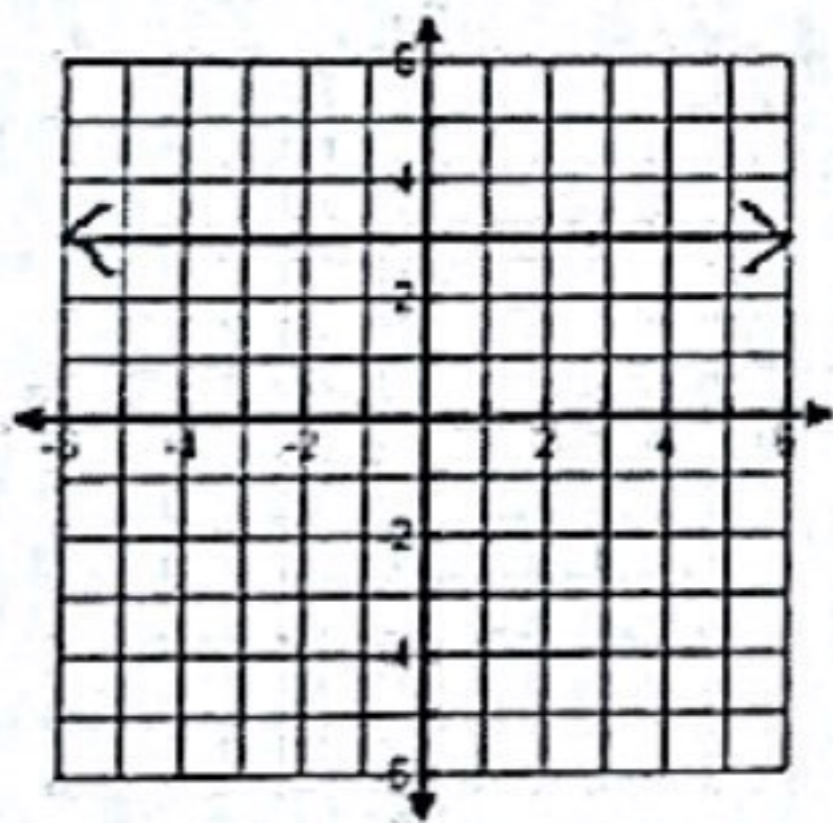
1) Discrete or Cont? \_\_\_\_\_  
Domain \_\_\_\_\_  
Range \_\_\_\_\_  
Function? \_\_\_\_\_



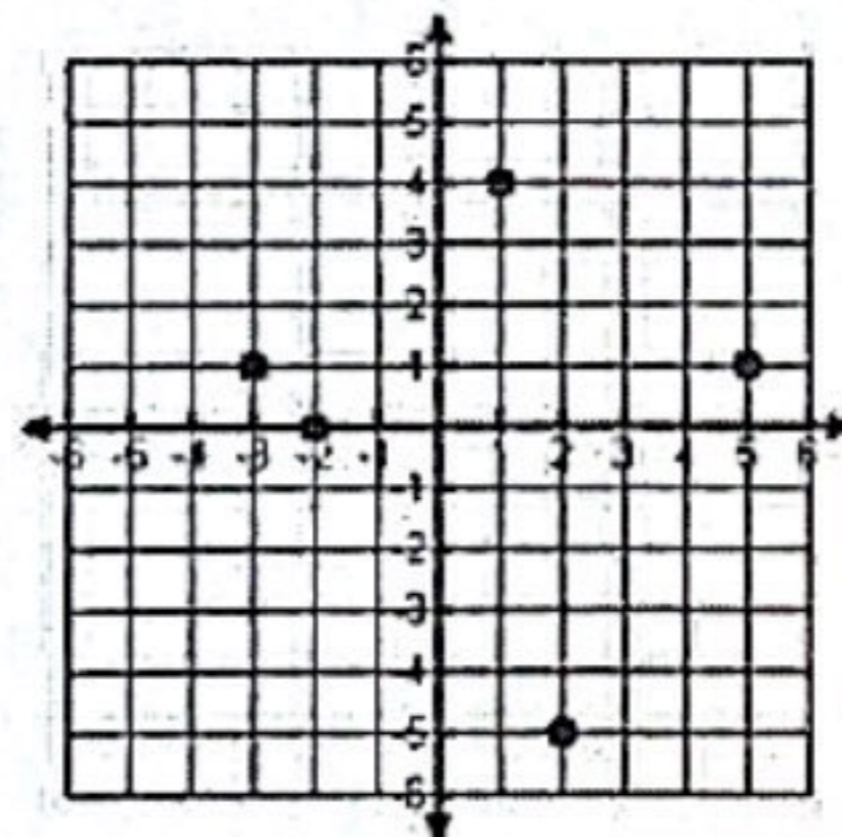
2) Discrete or Cont? \_\_\_\_\_  
Domain \_\_\_\_\_  
Range \_\_\_\_\_  
Function? \_\_\_\_\_



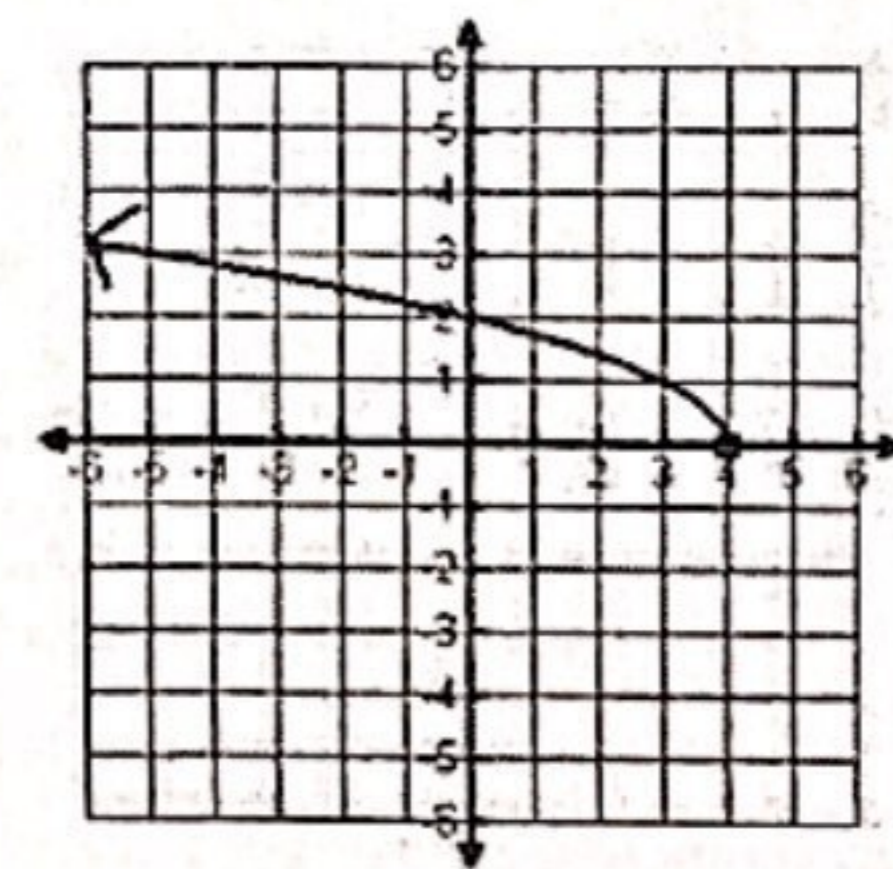
3) Discrete or Cont? \_\_\_\_\_  
Domain \_\_\_\_\_  
Range \_\_\_\_\_  
Function? \_\_\_\_\_



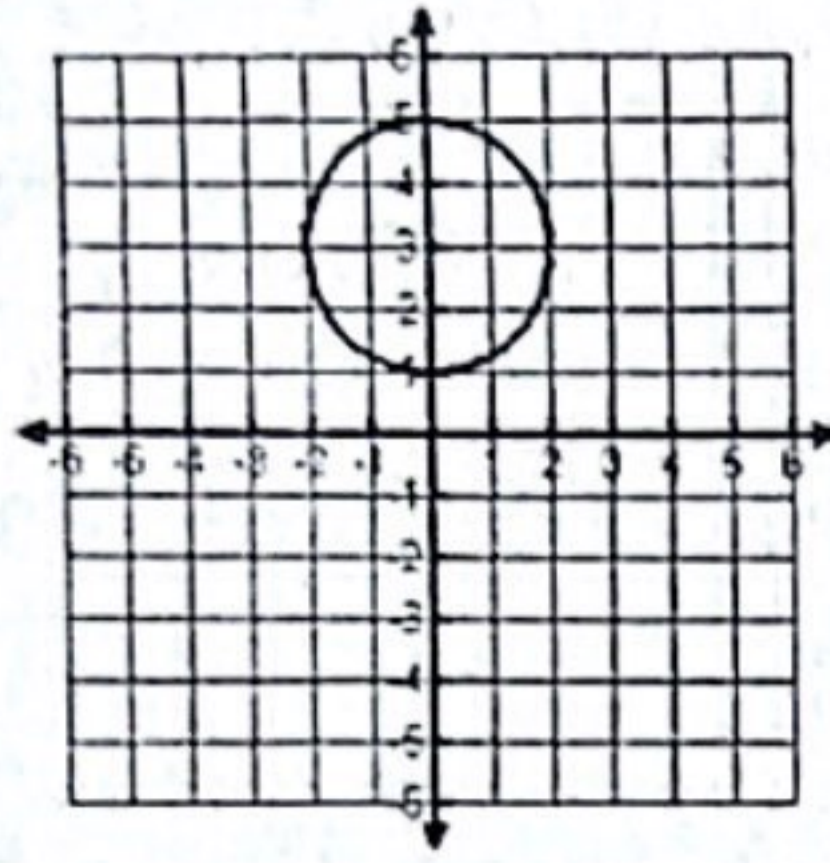
4) Discrete or Cont? \_\_\_\_\_  
Domain \_\_\_\_\_  
Range \_\_\_\_\_  
Function? \_\_\_\_\_



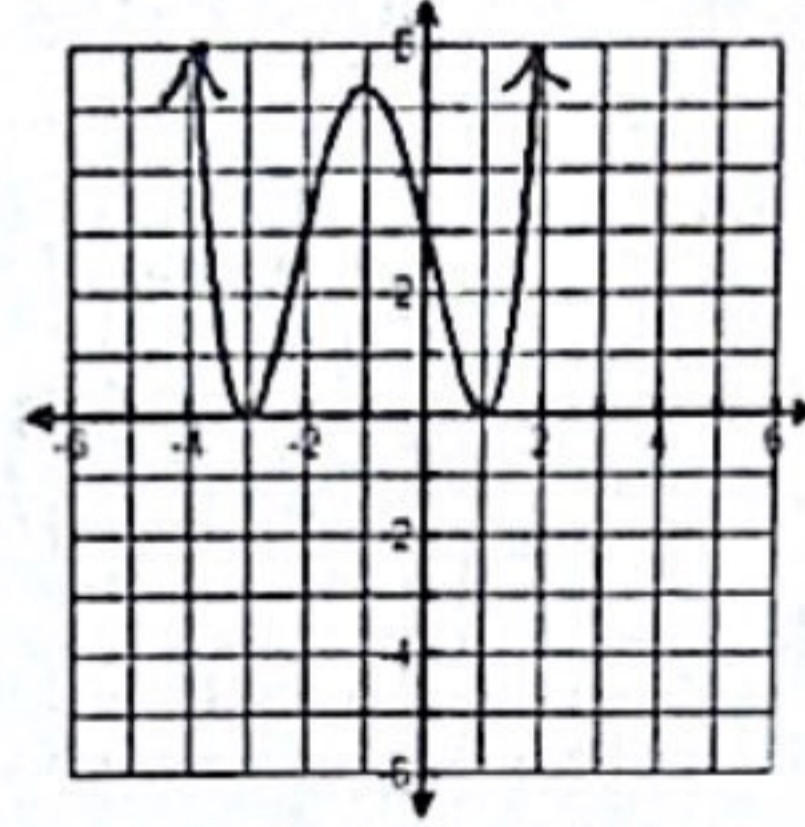
5) Discrete or Cont? \_\_\_\_\_  
Domain \_\_\_\_\_  
Range \_\_\_\_\_  
Function? \_\_\_\_\_



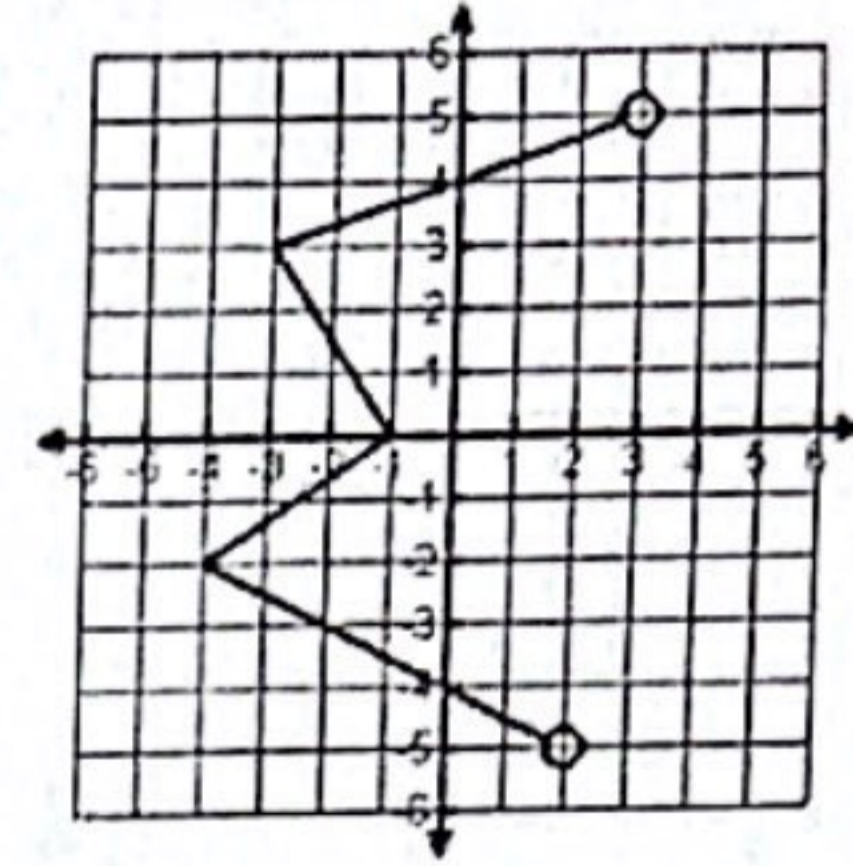
6) Discrete or Cont? \_\_\_\_\_  
Domain \_\_\_\_\_  
Range \_\_\_\_\_  
Function? \_\_\_\_\_



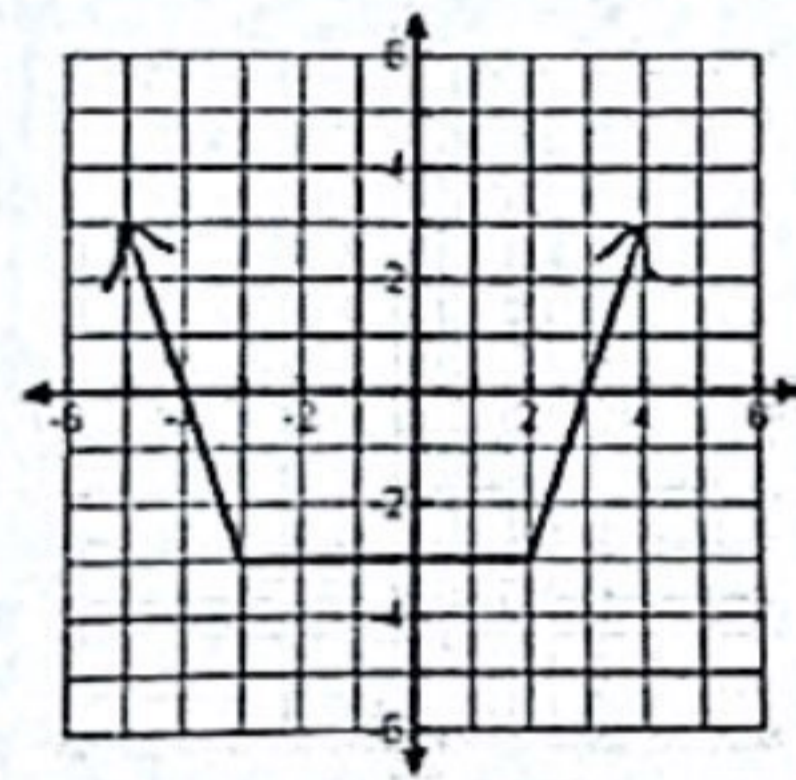
7) Discrete or Cont? \_\_\_\_\_  
 Domain \_\_\_\_\_  
 Range \_\_\_\_\_  
 Function? \_\_\_\_\_



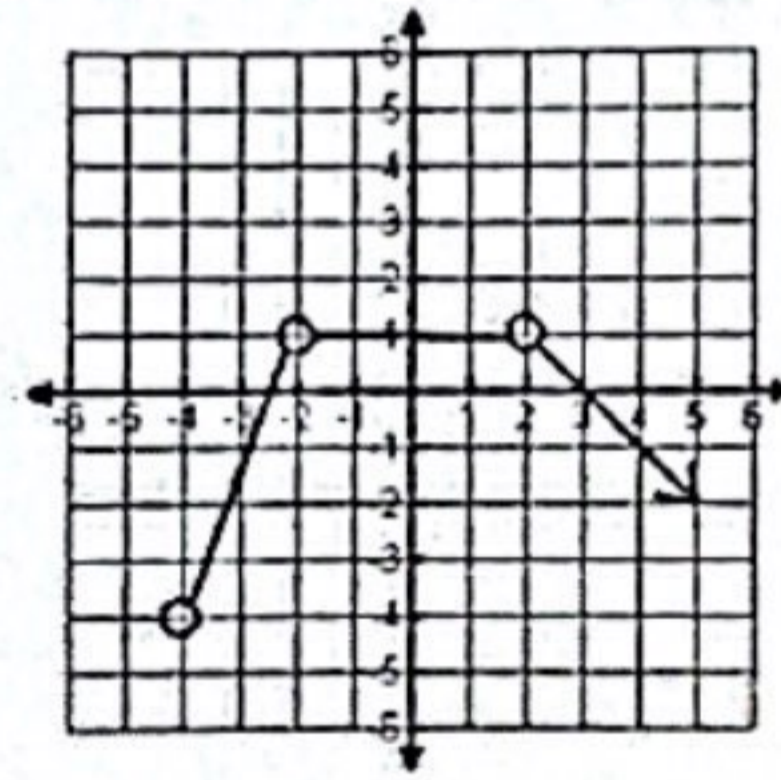
8) Discrete or Cont? \_\_\_\_\_  
 Domain \_\_\_\_\_  
 Range \_\_\_\_\_  
 Function? \_\_\_\_\_



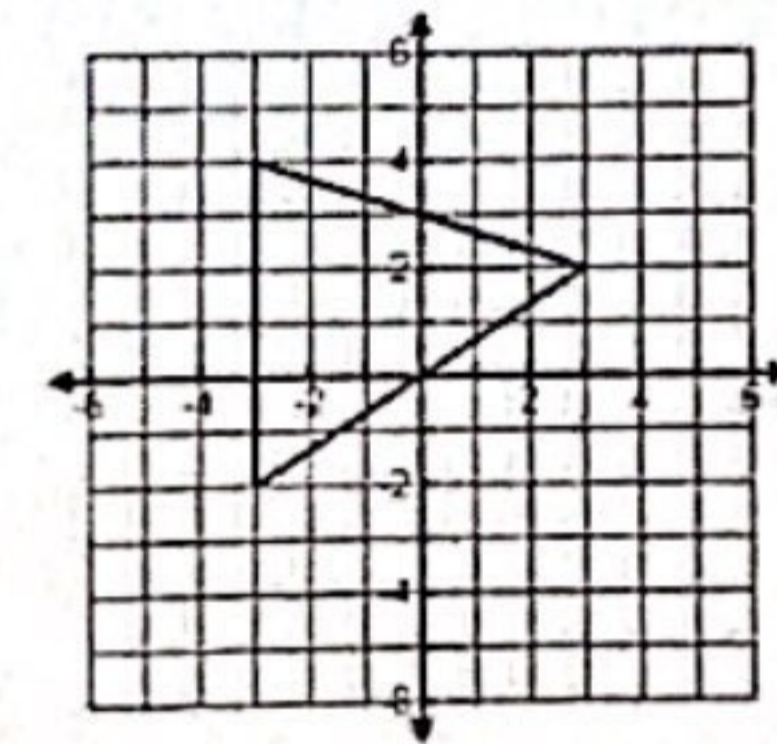
9) Discrete or Cont? \_\_\_\_\_  
 Domain \_\_\_\_\_  
 Range \_\_\_\_\_  
 Function? \_\_\_\_\_



10) Discrete or Cont? \_\_\_\_\_  
 Domain \_\_\_\_\_  
 Range \_\_\_\_\_  
 Function? \_\_\_\_\_



11) Discrete or Cont? \_\_\_\_\_  
 Domain \_\_\_\_\_  
 Range \_\_\_\_\_  
 Function? \_\_\_\_\_



12) Discrete or Cont? \_\_\_\_\_  
 Domain \_\_\_\_\_  
 Range \_\_\_\_\_  
 Function? \_\_\_\_\_