

Part I: Transformations and Piece-Wise

Graph each of the following using Transformations.

1. $y = -(x-1)^2 + 3$

2. $y = -|x-2| - 3$

3. $y = (x+3)^3 - 1$

4. $y = \left[\frac{1}{2}x\right]$

5. $y = \frac{1}{x} + 1$

6. $y = \sqrt{-2x}$

7. $y = (2x^2) + 1$

8. $y = \frac{1}{2}x^3 - 1$

9. $y = 2^x - 3$

10. $y = [x-1] + 1$

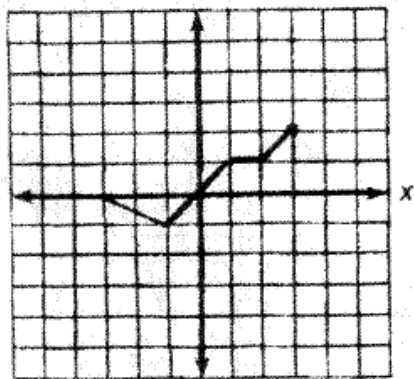
11. $y = 2(x-2)^2 + 1$

12. $y = \frac{3}{x-1} - 2$

13. $y = -\sqrt{x-1} + 2$

14. $y = 3|x| - 2$

15. $y = 2^{x-1} + 1$

For Problems #16-25. Given the graph of $y = f(x)$; Graph the transformation of $f(x)$ stated in each problem.Given $f(x)$, graph:

16. $2f(x)$

17. $f(2x)$

18. $f(x) + 1$

19. $f(x+1)$

20. $f(|x|)$

21. $-f(x)$

22. $f(-x)$

23. $|f(x)|$

24. $f(|x|) - 2$

25. $-f(-x)$

Graph each piece-wise Function.

26. $f(x) = \begin{cases} 1 & x > 0 \\ -1 & x \leq 0 \end{cases}$

27. $f(x) = \begin{cases} x & x < 1 \\ x^2 & x \geq 1 \end{cases}$

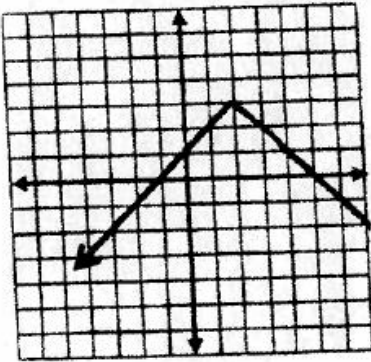
28. $f(x) = \begin{cases} -x & x < -1 \\ 1 & -1 \leq x < 1 \\ x+2 & x \geq 1 \end{cases}$

29. $f(x) = \begin{cases} x^2 & x < 0 \\ -\sqrt{x} & x \geq 0 \end{cases}$

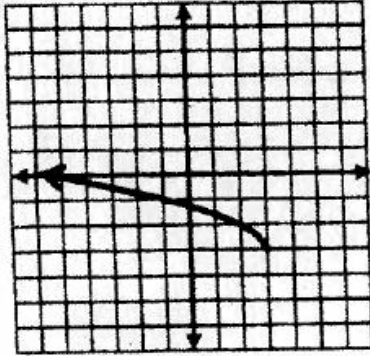
30. $f(x) = \begin{cases} |x| & x \leq 0 \\ -1 & 0 < x \leq 2 \\ x & x > 2 \end{cases}$

Write an equation to represent each function below. Note: Some of these are Piece-Wise Functions/

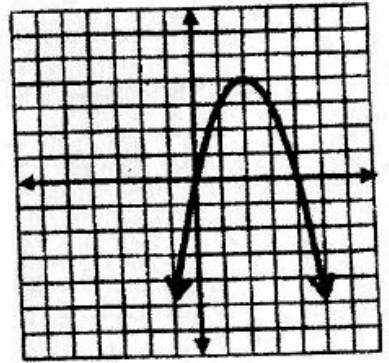
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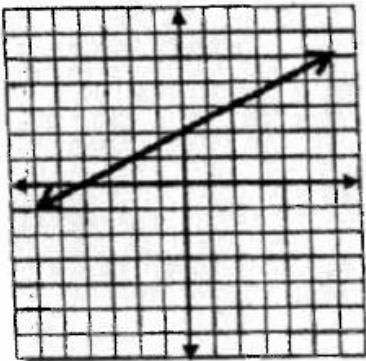
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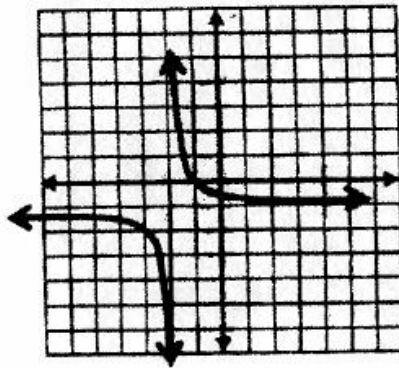
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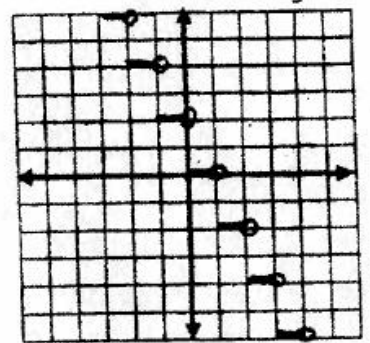
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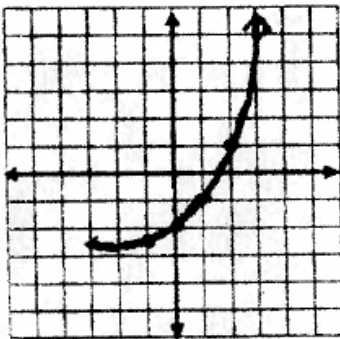
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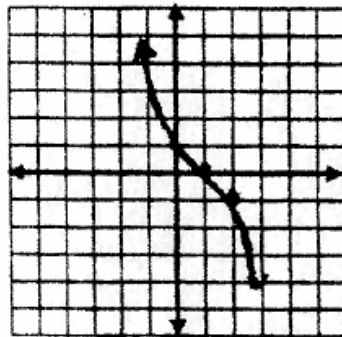
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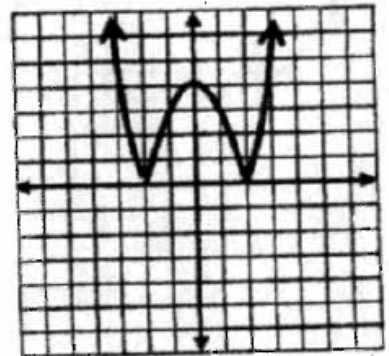
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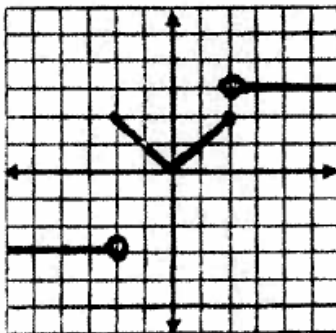
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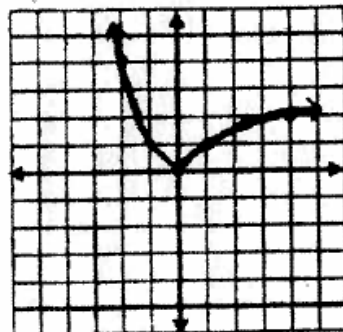
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40.



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42.

