WS #13

Practicing our Piecewise (again!)

Name_____ Date_____

Evaluate the function for the given value of x.

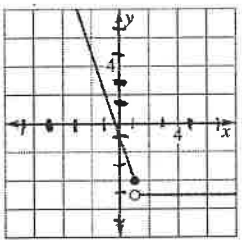
$f(x) = \begin{cases} 3, & \text{if } x \le 0 \\ 2, & \text{if } x > 0 \end{cases}$ $g(x) = \begin{cases} x + 5, & \text{if } x \le 3 \\ 2x - 1, & \text{if } x > 3 \end{cases}$ $h(x) = \begin{cases} \frac{1}{2}x - 4, & \text{if } x \le -2 \\ 3 - 2x, & \text{if } x > -2 \end{cases}$

1. $f(2)$
2. $f(-4)$
3. $f(0)$
4. $f\left(\frac{1}{2}\right)$
5. $g(7)$
6. $g(0)$
7. $g(-1)$
8. $g(3)$
9. $h(-4)$
10. $h(-2)$
11. $h(-1)$
12. $h(6)$

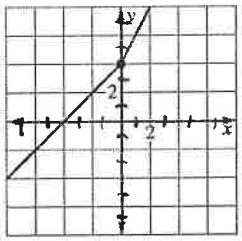
Match the piecewise function with its graph. Write the answer next to the problem number.

13. $f(x) = \begin{cases} x - 4, & \text{if } x \le 1 \\ 3x, & \text{if } x > 1 \end{cases}$
14. $f(x) = \begin{cases} x + 4, & \text{if } x \le 0 \\ 2x + 4, & \text{if } x > 0 \end{cases}$
15. $f(x) = \begin{cases} 3x - 2, & \text{if } x \le 1 \\ x + 2, & \text{if } x > 1 \end{cases}$
16. $f(x) = \begin{cases} 2x + 3, & \text{if } x \ge 0 \\ x + 4, & \text{if } x < 0 \end{cases}$
17. $f(x) = \begin{cases} 3x - 1, & \text{if } x \ge -1 \\ -5, & \text{if } x < -1 \end{cases}$
18. $f(x) = \begin{cases} -3x - 1, & \text{if } x \le 1 \\ -5, & \text{if } x > 1 \end{cases}$

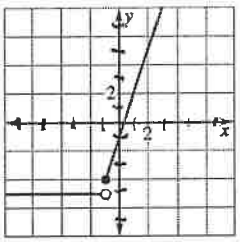
A.



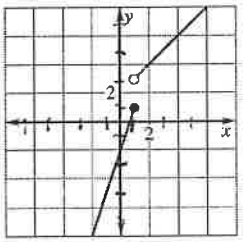
B.



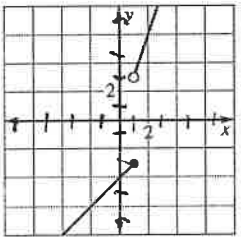
C.



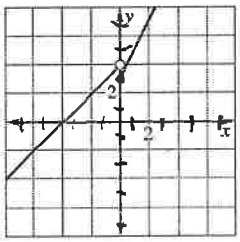
D.



E.

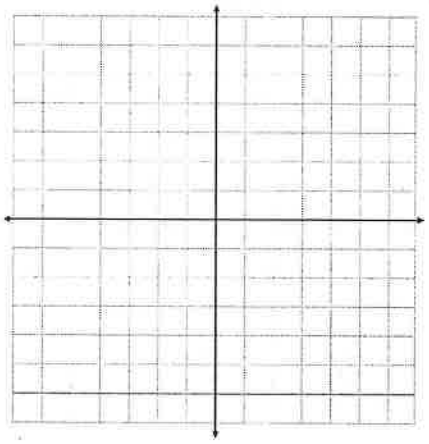


F.

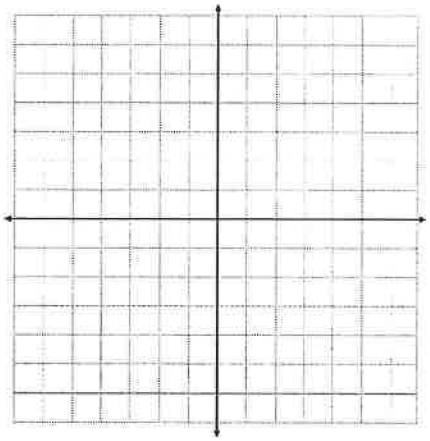


Graph the piecewise functions.

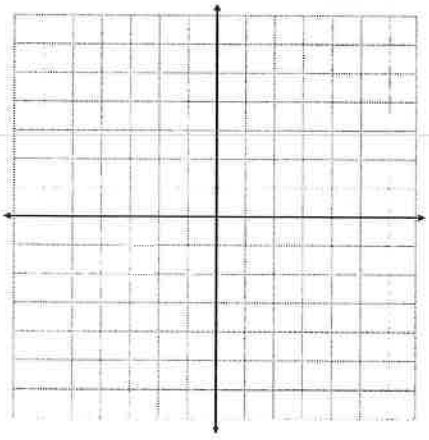
19) $f(x) = \begin{cases} -3 & if \quad x \leq -2 \\ \frac{1}{2}x + 3 & if \quad x > -2 \end{cases}$



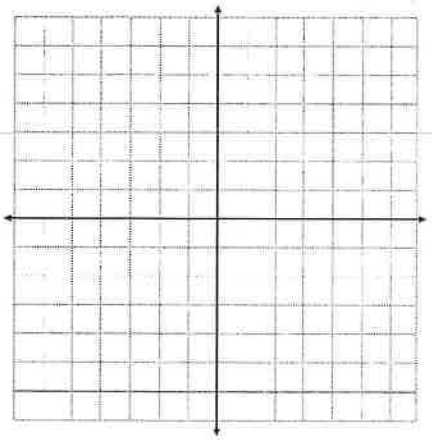
20) $f(x) = \begin{cases} 2 & if \quad x > 3 \\ -2 & if \quad -2 \leq x \leq 3 \\ 1 & if \quad x < -2 \end{cases}$



21) $f(x) = \begin{cases} -(x+2)^2 + 1 & if \quad x \leq -1 \\ 2x - 4 & if \quad x > 2 \end{cases}$

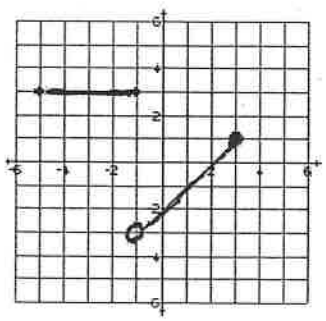


22) $f(x) = \begin{cases} x^2 - 1 & when \quad x < 0 \\ -x^2 + 1 & when \quad 0 \leq x < 2 \\ 1 & when \quad x \geq 2 \end{cases}$

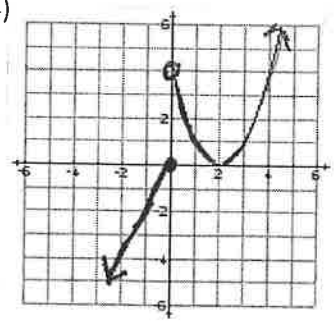


Write the piecewise function for each graph.

23)



24)



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