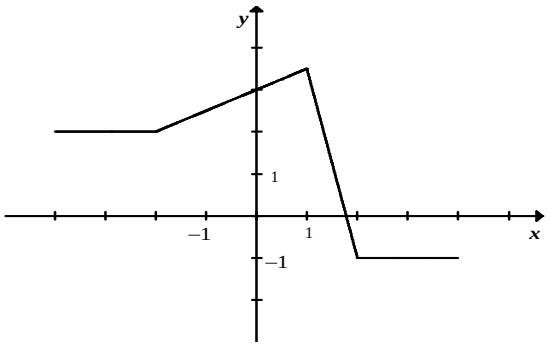
UB SAT 2009
Worksheet #14
Translating/Transforming Functions



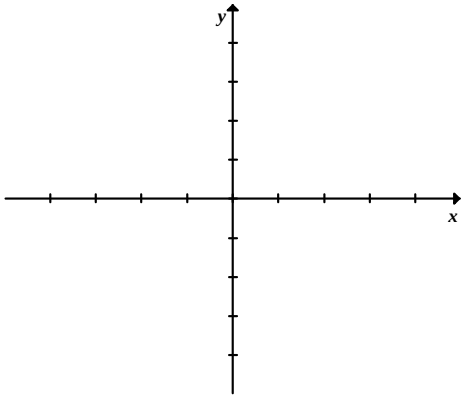
The graph of $y = f(x)$ is shown above. Use the graph to evaluate the following:

1) $f(-2) =$

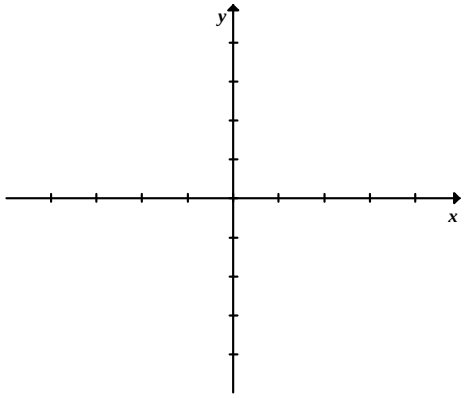
2) $f(0) =$

3) $f(3) =$

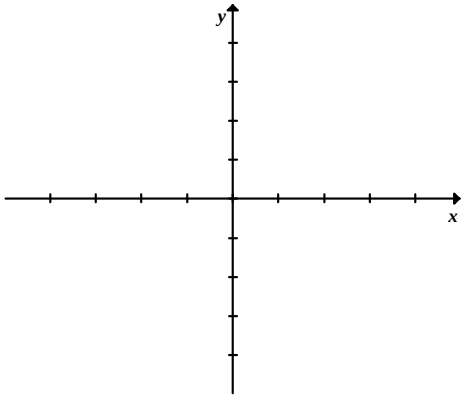
4) Draw the graph of $y = f(x+1)$



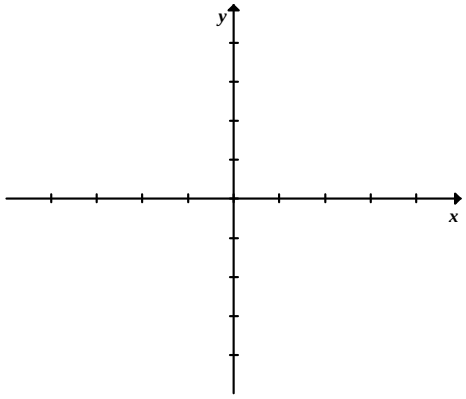
5) Draw the graph of $y = f(x) - 2$

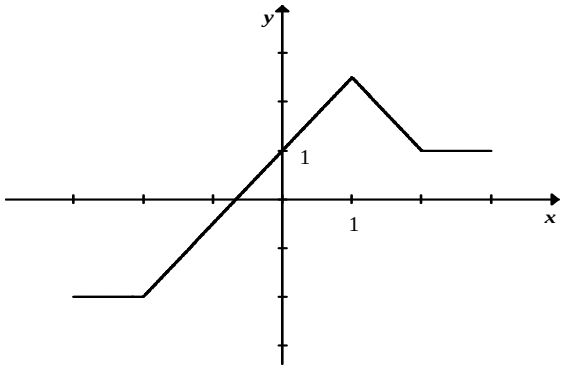


6) Draw the graph of $y = f(x+1) - 2$



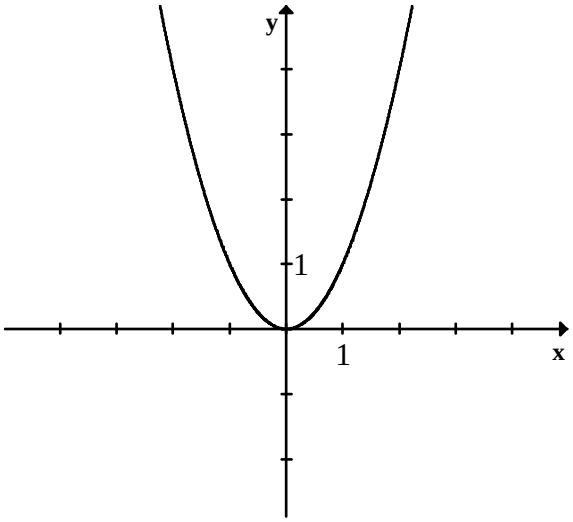
7) Draw the graph of $y = f(x-2) + 1$





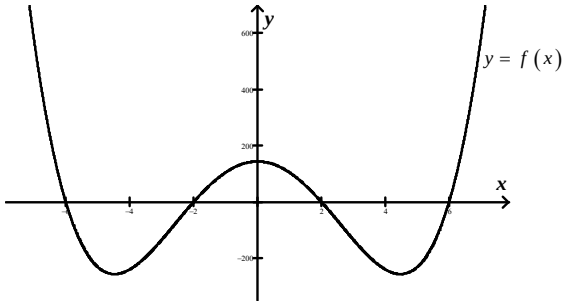
8. The graph of $y = g(x)$ is shown above. If $g(a) = -2,$ which of the following is a possible value of a?

(A) -3 (B) -1 (C) 0 (D) 1 (E) 3



9. In the function $y = f(x)$ graphed above, for how many values of x does $f(x) = 3$?

(A) 4 (B) 3 (C) 2 (D) 1 (E) 0

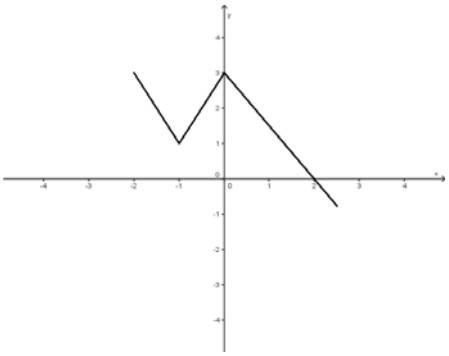


10. For the portion of the graph shown above, what is the number of values for which $f(x) = 1$?

(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

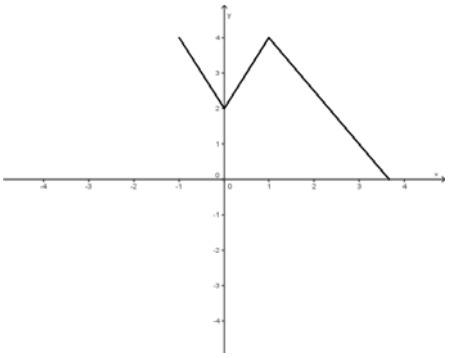
11. If $f(x) = 3x^2$, at which x-coordinate do the graphs of $f(x)$ and $f(x-1)$ intersect?

(A) $-\frac{1}{2}$ (B) $\frac{1}{2}$ (C) $\frac{3}{4}$ (D) 2 (E) 3

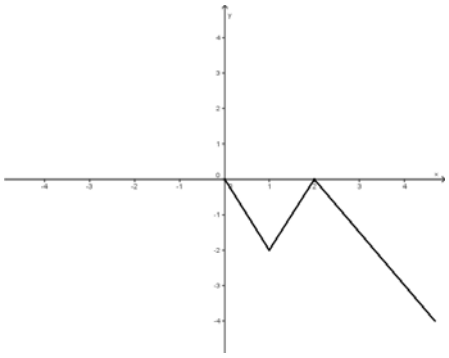


12. The graph of $y = f(x)$ is shown above. Which of the following could be the graph of $f(x-1)+1$?

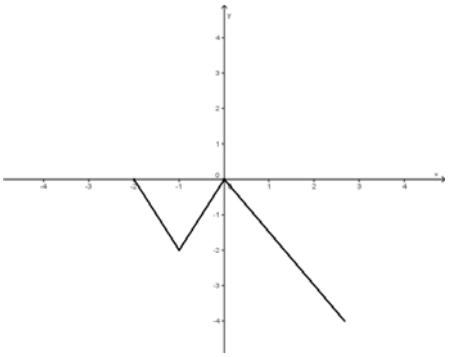
(A)



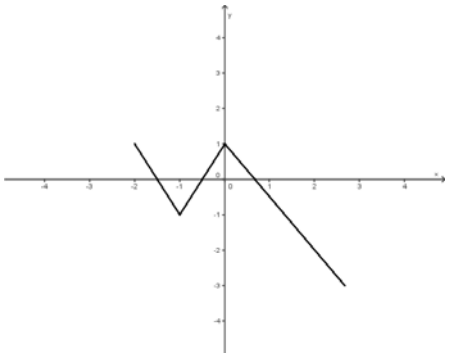
(B)



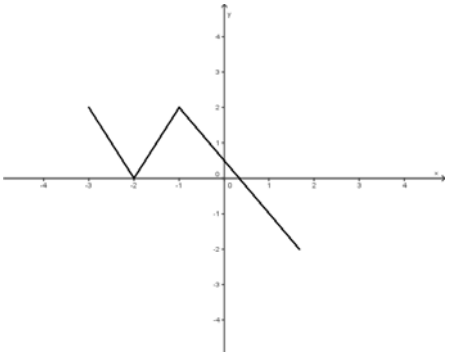
(B)

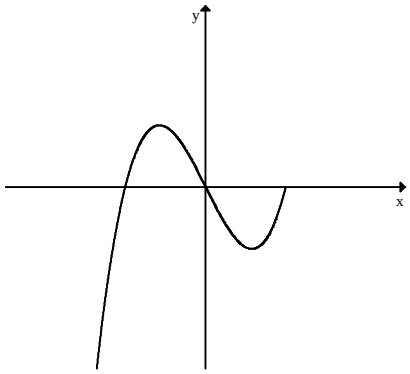


(D)



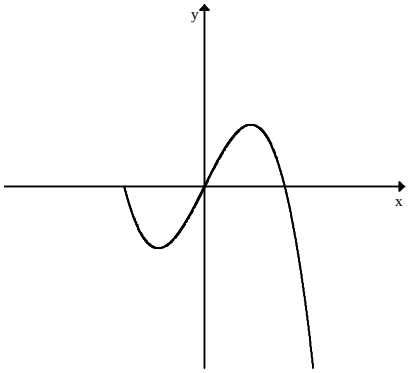
(E)



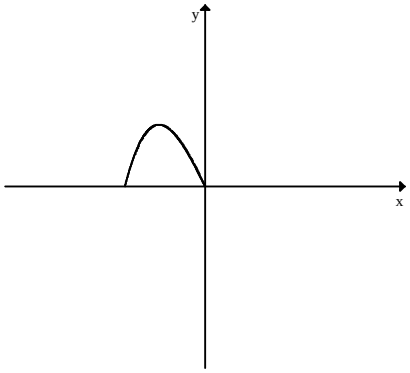


13. The graph of $y = f(x)$ is shown above. Of the following graphs, which could be the graph of $y = |f(x)|$?

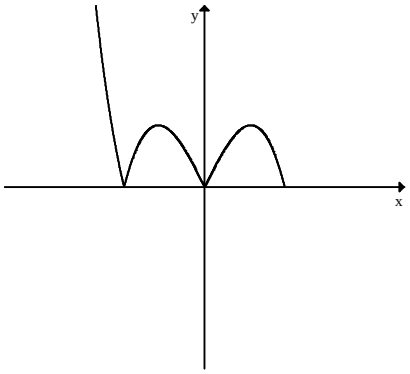
(A)



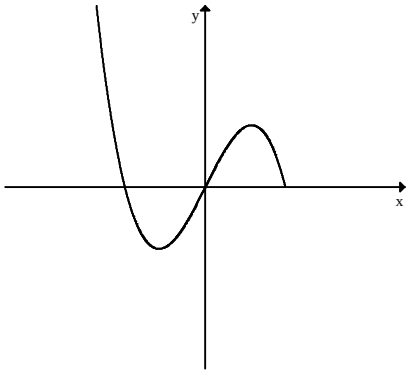
(B)



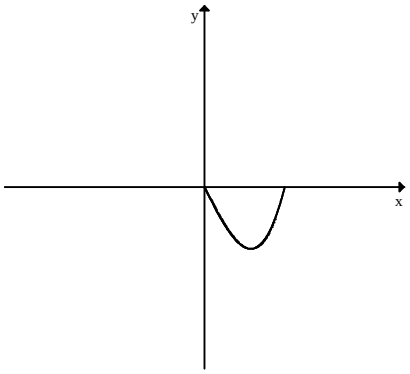
(C)



(D)



(E)



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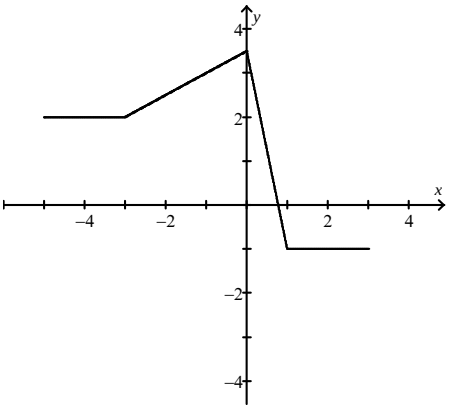
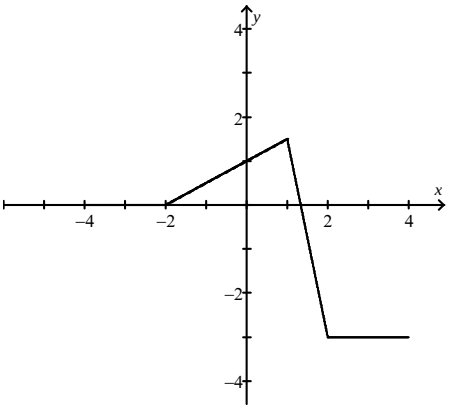
Answers

1. 2 2. 3 3. −1

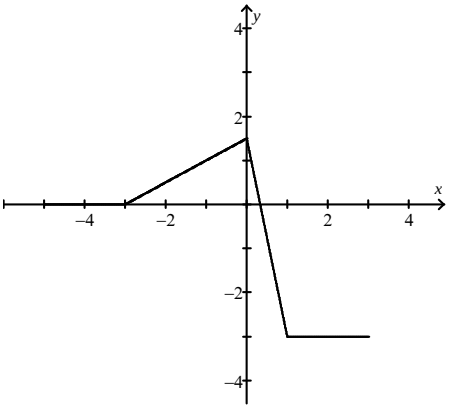
4.



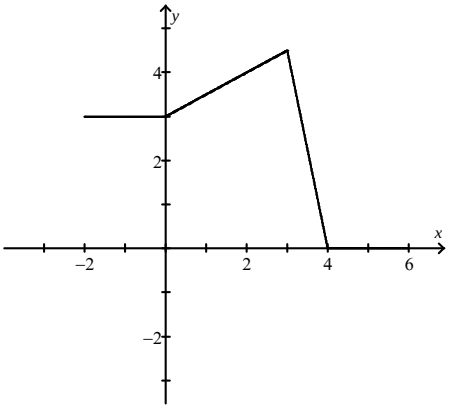
5.



6.



7.



8. A 9. C 10. E

11. B 12. A 13. C