**Section 2.5 WS** **Name** KEY

**Determine whether the graph is an even function, odd function, or neither.**

1. $g(x) = x^2 - 7$

Even

2. $F(x) = x^5 + x^3$

odd

3. $H(x) = 3|x|$

Even

4. $f(x) = 1$

Even

5. $g(x) = \sqrt{x^2 + 4}$

Even

6. $h(x) = 16x^2$

Even

7. $g(x) = 4x^3 + 3x$

$g(-x) = 4(-x)^3 + 3(-x)$

$g(-x) = -4x^3 - 3x$

$-g(x) = -(4x^3 + 3x)$

$-g(x) = -4x^3 - 3x$

$\boxed{\text{ODD}}$

8. $f(x) = 2x^2 + 3x$

$f(-x) = 2(-x)^2 + 3(-x)$

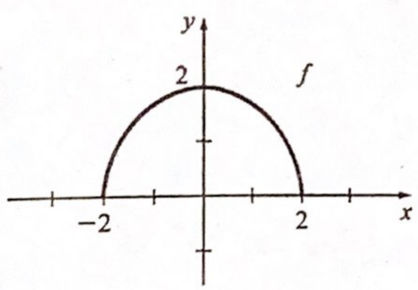
$f(-x) = 2x^2 - 3x$

$-f(x) = -(2x^2 + 3x)$

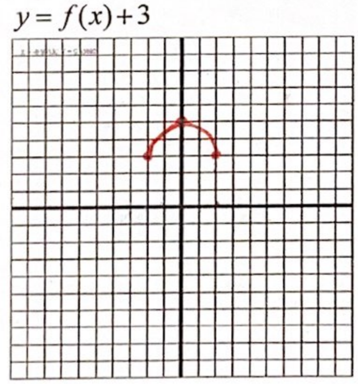
$-f(x) = -2x^2 - 3x$

$\boxed{\text{Neither}}$

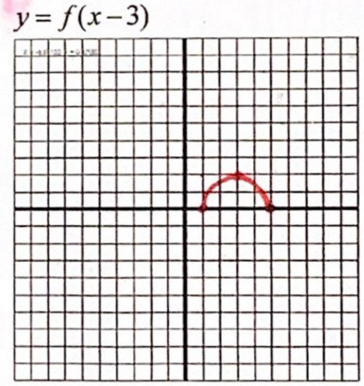
9. Use the graph of $f$ to sketch the graph of



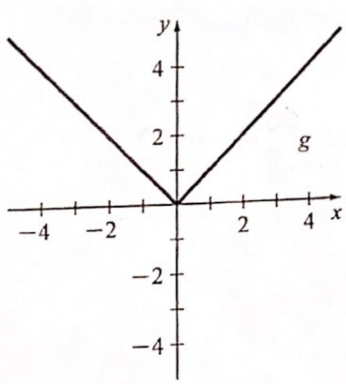

a. $y = f(x) + 3$



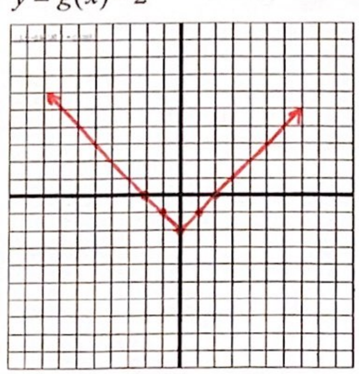
b. $y = f(x - 3)$



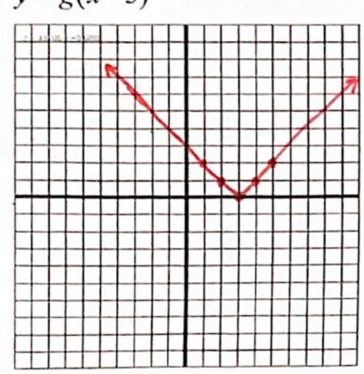
10. Use the graph of $g$ to sketch the graph of




a. $y = g(x) - 2$



b. $y = g(x - 3)$



11. Let $f$ be a function such that $f(-2)=5, f(0)=-2, f(1)=0$. Give the coordinates of three points on the graph of:

(-2,5), (0,-2), (1,0)

a. $y=f(x+3)$

(-5,5), (-3,-2), (-2,0)

b. $y=f(x)+1$

(-2,6), (0,-1), (1,1)

12. Let $g$ be a function such that $g(4)=-5$, and $f(-3)=2$.. Give the coordinates of the two points on the graph of:

(4,-5) (-3,2)

a. $y=-g(x)$

(4,5), (-3,-2)

b. $y=g(-x)$

(-4,-5), (3,2)

**Write the equation of a line in slope-intercept form, that satisfies the given conditions.**

13. Find the equation of the line whose graph is parallel to the graph of $2x-3y=7$ and passes through the point $P(-1,-6)$.

$y=\frac{2}{3}x-\frac{16}{3}$

14. Find the equation of the line whose graph is perpendicular to the graph of $-3x+2y=10$ and passes through the point $P(3,-3)$.

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

**Write the quadratic function in vertex form.**

15. $g(x)=-x^2-6x-2$

$g(x)=-(x+3)^2+7$

16. $f(x)=2x^2-8x+23$

$f(x)=2(x-2)^2+15$

17. $h(x)=x^2+10x+17$

$h(x)=(x+5)^2-8$

**Find the maximum or minimum value of the function. State whether the value is a minimum or maximum.**

18. $f(x)=x^2+12x+3$

$-33$, min

19. $h(x)=-x^2+14x-14$

$35$, max

20. $g(x)=2x^2+19x+7$

$\frac{-305}{8}$, min