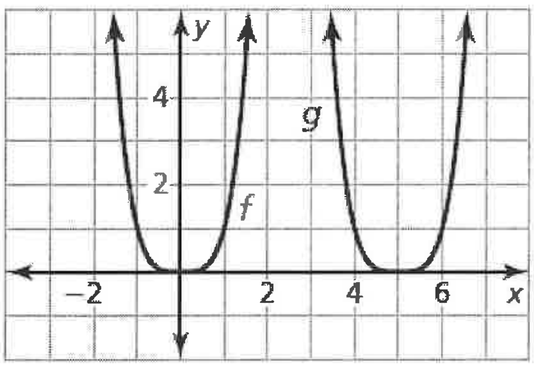
ANSWER PRESENTATION TOOL

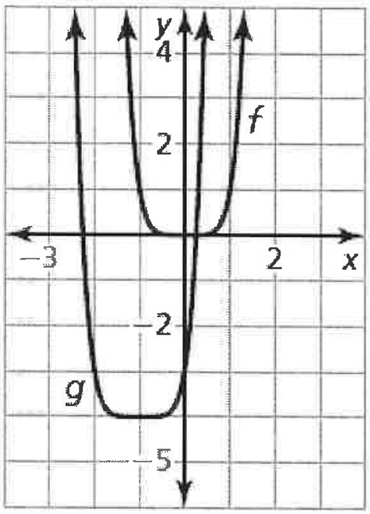
Algebra 2 - Student Edit 4 7 - Practice 2-26 ALL EVEN Show Solı

ODD

2. Notice that the function is of the form $g(x) = (x - h)^4 + k$.
Rewrite the function to identify h and k, $g(x) = (x - 5)^4 + 0$.
Because $h = 5$ and $k = 0$, the graph of g is a translation 5 units right of the graph of f.



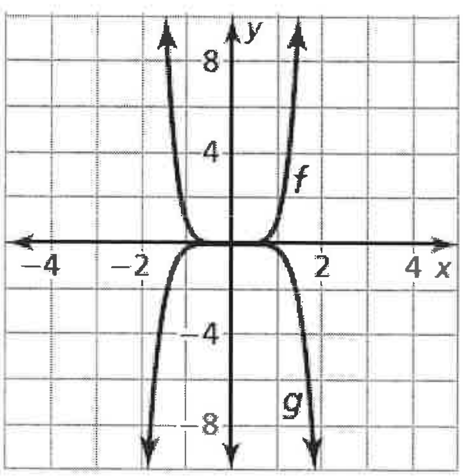
4. Notice that the function is of the form $g(x) = (x - h)^6 + k$. Rewrite the function to identify h and k.
$g(x) = (x - (-1))^6 + (-4)$. Because $h = -1$ and $k = -4$, the graph of g is a translation 1 unit left and 4 units down of the graph of f.



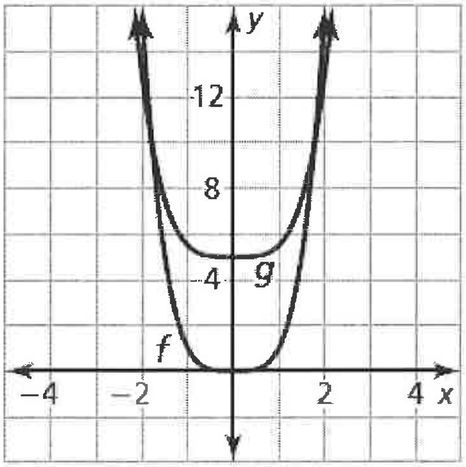
6. C; The graph of f is translated 2 units left and 2 units up.

8. A; The graph of f is translated 2 units down.

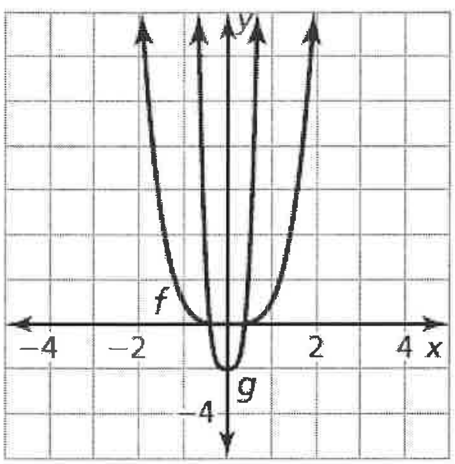
10. Notice that the function is of the form $g(x) = ax^6$, where $a = -\frac{1}{4}$. So, the graph of g is a vertical shrink by a factor of $\frac{1}{4}$ followed by a reflection in the x-axis of the graph of f.



12. Notice that the function is of the form $g(x) = ax^4 + k$, where $a = \frac{1}{2}$ and $k = 5$. So, the graph of g is a vertical shrink by a factor of $\frac{1}{2}$ followed by a translation 5 units up of the graph of f.



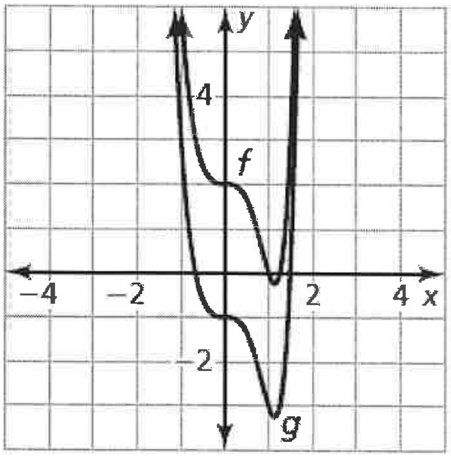
14. Notice that the function is of the form $g(x) = (ax)^4 + k$, where $a = 3$ and $k = -2$. So, the graph of g is a horizontal shrink by a factor of $\frac{1}{3}$ followed by a translation 2 units down of the graph of f.



16. $g(x) = f(x) - 3$

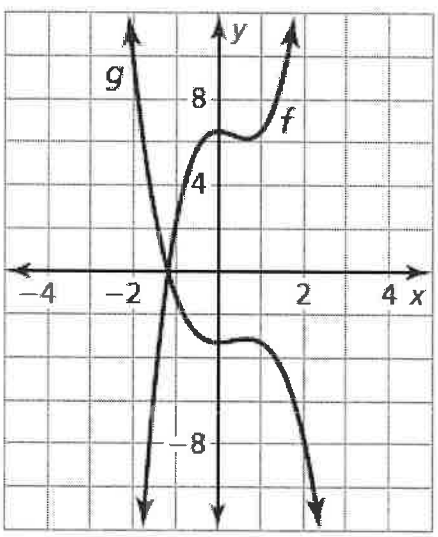
$= (x^6 - 3x^3 + 2) - 3$

$= x^6 - 3x^3 - 1$



The graph of g is a translation 3 units down of the graph of f.

18. $g(x) = -x^3 + x^2 - 3$



The graph of g is a vertical shrink by a factor of $\frac{1}{2}$, followed by a reflection in the x-axis of the graph of f.

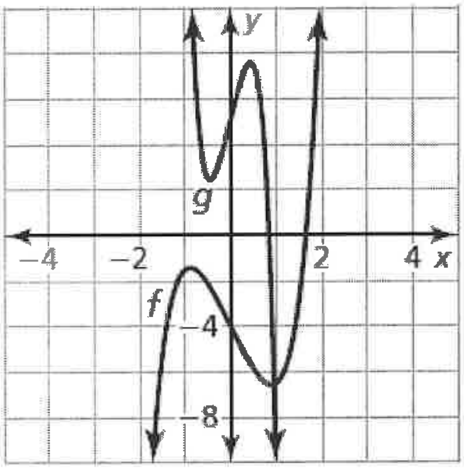
20. $g(x) = -f(2x) + 1$

$$= -\left[\tfrac{1}{2}(2x)^5 + (2x)^3 - 4(2x) - 4\right] + 1$$

$$= -[16x^5 + 8x^3 - 8x - 4] + 1$$

$$= -16x^5 - 8x^3 + 8x + 4 + 1$$

$$= -16x^5 - 8x^3 + 8x + 5$$



The graph of g is a horizontal shrink by a factor of $\frac{1}{2}$, followed by a reflection in the x-axis and a translation 1 unit up of the graph of f.

22. The factor of the horizontal shrink is incorrect; The graph of g is a horizontal shrink by a factor of $\frac{1}{3}$ followed by a translation 4 units down of the graph of f.

24. Step 1 First write a function h that represents the vertical stretch of f.

$$h(x) = 2f(x)$$
$$= 2(x^4 + 2x + 6)$$
$$= 2x^4 + 4x + 12$$

Step 2 Then write a function g that represents the translation of h.

$$g(x) = h(x - 4)$$
$$= 2(x - 4)^4 + 4(x - 4) + 12$$
$$= 2(x^4 - 16x^3 + 96x^2 - 256x + 256) + 4x - 16 + 12$$
$$= 2x^4 - 32x^3 + 192x^2 - 512x + 512 + 4x - 4$$
$$= 2x^4 - 32x^3 + 192x^2 - 508x + 508$$

The transformed function is
$g(x) = 2x^4 - 32x^3 + 192x^2 - 508x + 508$.

26. Step 1 First write a function h that represents the reflection and vertical stretch of f.

$$h(x) = 3f(-x)$$
$$= 3(2(-x)^5 - (-x)^3 + (-x)^2 + 4)$$
$$= 3(-2x^5 + x^3 + x^2 + 4)$$
$$= -6x^5 + 3x^3 + 3x^2 + 12$$

Step 2 Then write a function g that represents the translation of h.

$$g(x) = h(x) + (-1)$$
$$= h(x) - 1$$
$$= (-6x^5 + 3x^3 + 3x^2 + 12) - 1$$
$$= -6x^5 + 3x^3 + 3x^2 + 11$$

The transformed function is $g(x) = -6x^5 + 3x^3 + 3x^2 + 11$.