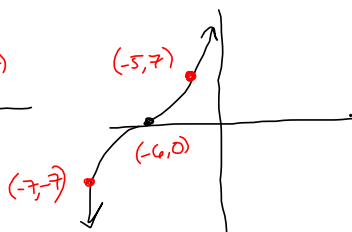
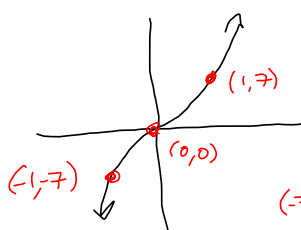
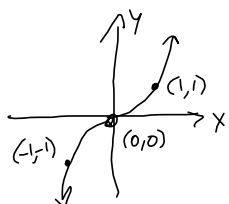


### The Main Method (Sequence)

- ①  $2f(x)$   
 $(x, y) \rightarrow (x, 2y)$
- ②  $f(x+c)$   
 $(x, y) \rightarrow (x-c, y)$
- ③  $f(bx)$   
 $(x, y) \rightarrow (\frac{1}{b}x, y)$
- ④  $f(x) + d$   
 $(x, y) \rightarrow (x, y+d)$

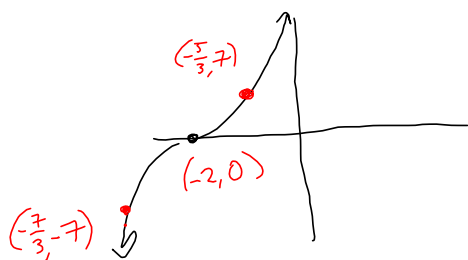
$$g(x) = 7(3x+6)^3 - 5$$

- ①  $f(x) = x^3$
- ①  $7f(x) = 7x^3$
- ②  $7f(x+6)$



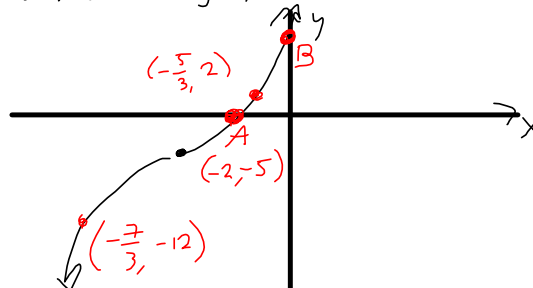
- ③  $f(bx)$   
 $(x, y) \rightarrow (\frac{1}{b}x, y)$

$$7f(3x+6) = 7(3x+6)^3$$



- ④  $f(x) + d$   
 $(x, y) \rightarrow (x, y+d)$

$$7f(3x+6) - 5 = g(x) = 7(3x+6)^3 - 5$$



METHOD 2

SWITCH ② & ③

①  $2f(x)$

③  $f(bx)$

②  $f(x+c)$

④  $f(x)+d$

$(x,y) \rightarrow (x,2y)$

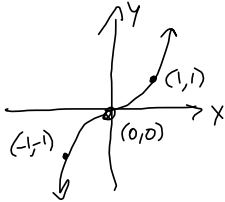
$(x,y) \rightarrow (\frac{1}{5}x,y)$

$(x,y) \rightarrow (x-c,y)$

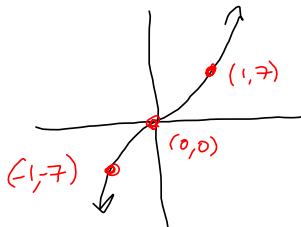
$(x,y) \rightarrow (x,y+d)$

$g(x) = 7(3x+6)^3 - 5$   
 $= 7(3(x+2))$

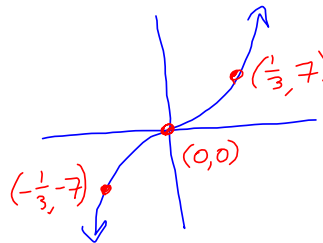
①  $f(x) = x^3$



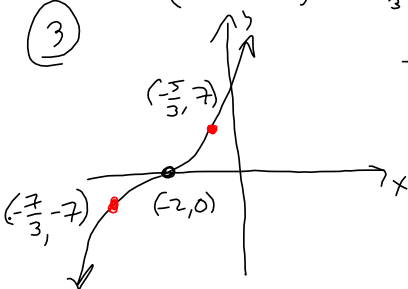
①  $7f(x) = 7x^3$



②  $7(3x)^3$



③  $7(3(x+2))^3$



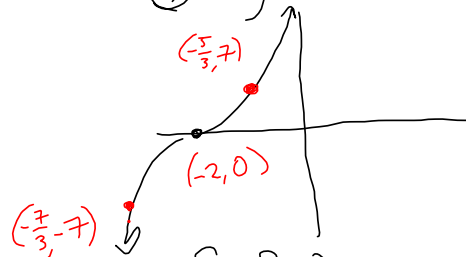
$\frac{1}{3} - 2 = \frac{1}{3} - \frac{2}{1} \cdot \frac{3}{3} = \frac{-5}{3}$

$-\frac{1}{3} - 2 = \frac{-1-6}{3} = \frac{-7}{3}$

$\sin(\frac{\pi}{6}x + \frac{5\pi}{6})$   
 $= \sin(\frac{\pi}{6}(x+5))$

$\frac{\frac{5\pi}{6}}{\frac{\pi}{6}} = \frac{5\pi \cdot 6}{\pi} = 5$

③ By Main Method



They say  
 "Phase Shift  
 is -5."

So STEP

.4's exactly the same.

See Previous Page for

final graph.