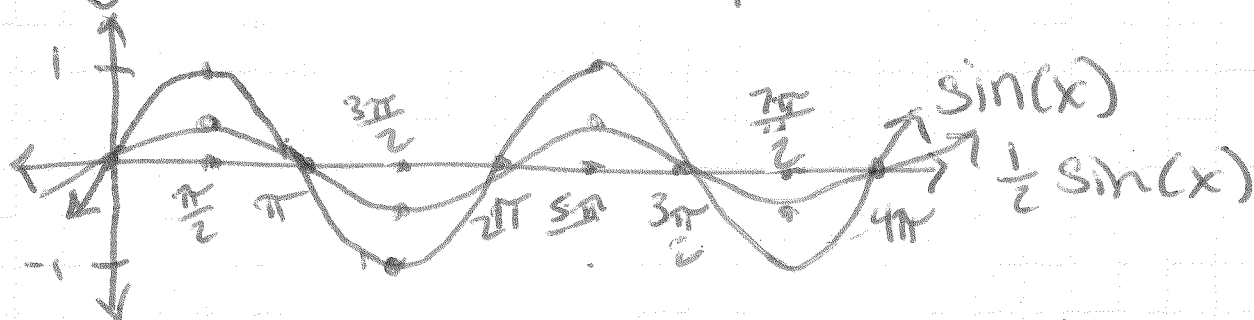


264: 1-4, 55-58

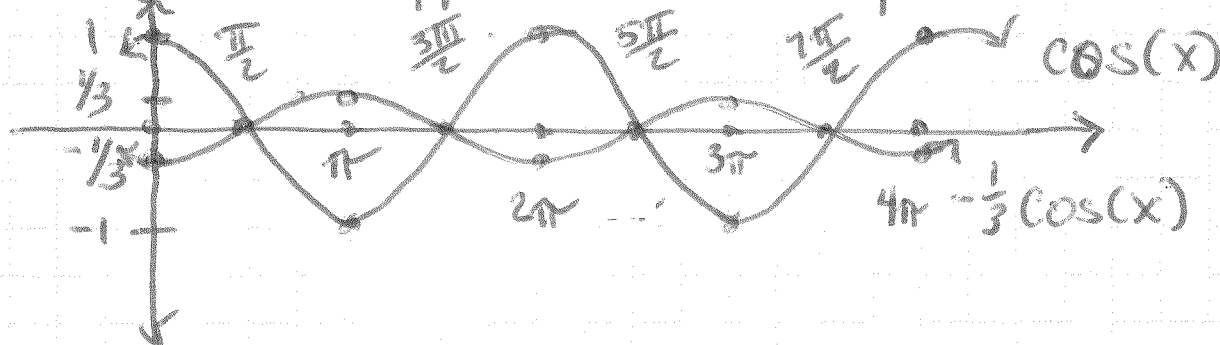
1.  $f(x) = \sin(x)$     $g(x) = \frac{1}{2} \sin(x)$     $|a| = \frac{1}{2}$

$g(x)$  has  $\frac{1}{2}$  the amplitude of  $f(x)$



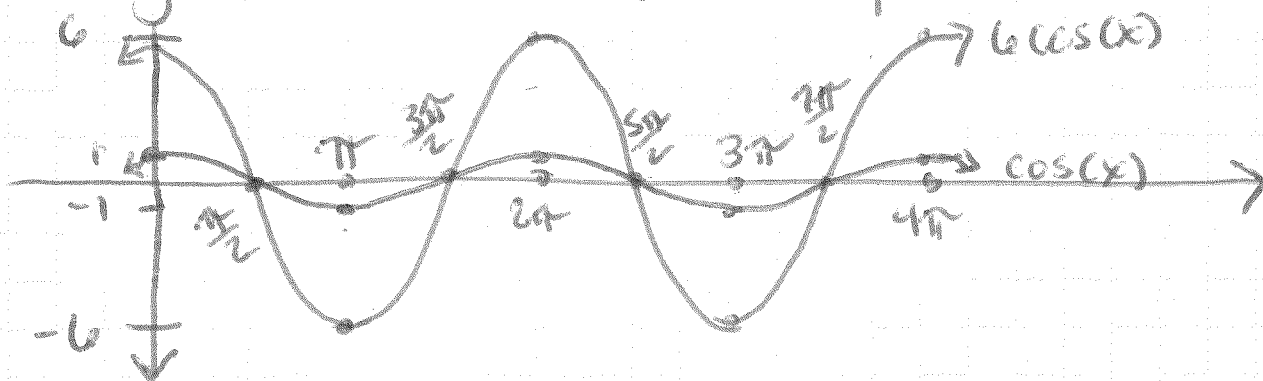
2.  $f(x) = \cos(x)$     $g(x) = -\frac{1}{3} \cos(x)$     $|a| = \frac{1}{3}$

$g(x)$  is flipped and  $\frac{1}{3}$  amplitude

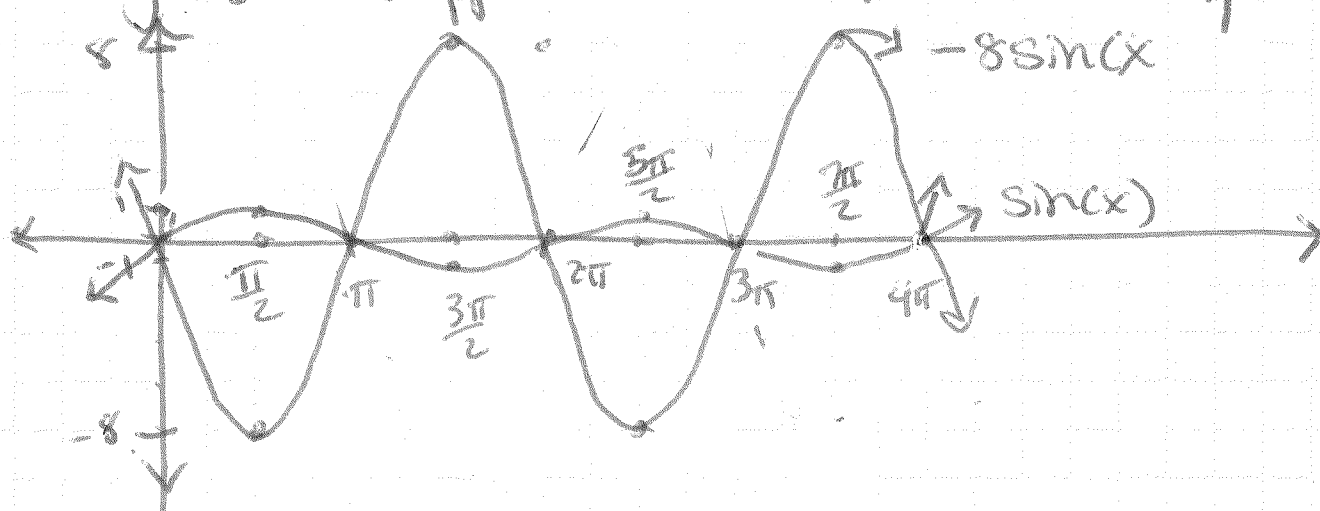


3.  $f(x) = \cos(x)$     $g(x) = 6 \cos(x)$     $|a| = 6$

$g(x)$  is 6 times the amplitude of  $f(x)$



4.  $f(x) = \sin(x)$      $g(x) = -8\sin(x)$      $|a| = 8$   
 $g(x)$  is flipped and 8 times the amplitude



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

3 real zeros, 2 TP, -4, 0, 2

56.  $x^4 - 10x^2 + 9$     4 real zeros  
 3 TP

$(x^2 - 9)(x^2 - 1)$   
 $(x+3)(x-3)(x+1)(x-1)$  zeros:  $\pm 3, \pm 1$

57.  $f(x) = x^5 + 2x^4 - 4x^3 - 8x^2$     5 reals, 4 TP  
 zeros  $\pm 2, 0$

58.  $f(x) = x^4 - 1$      $(x^2 - 1)(x^2 + 1)$     4 real zeros  
 $(x+1)(x-1)$     3 TP  
 zeros  $\pm 1$