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Suppose  $(8, -5)$  is a point on the graph of  $y = g(x)$ .

(a) What point is on the graph of  $y = g(x + 5) - 2$ ?

(b) What point is on the graph of  $y = -2g(x - 3) + 7$ ?

(c) What point is on the graph of  $y = g(2x + 2)$ ?

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(a) What point is on the graph of  $y = g(x + 5) - 2$ ?

(a) Move to the left 5 and down 2:  $(3, -7)$

(b)  $-2g(x)$  has the point  $(8, 10)$  Multiply y-value by  $-2$ .

Take that, replace  $x$  by  $x-3$  is a shift right by 3:  $-2g(x-3)$  has the point  $(11, 10)$

Take that, add 7 to y-value:  $-2g(x-3) + 7$  has the point  $(11, 17)$

(c)  $g(2x+2) = g(2(x+1))$ .

$g(2x)$  DIVIDE x-value by 2:  $(4, -5)$

Replace  $x$  by  $(x + 1)$  and so  $g(2(x + 1))$  is left 1 from previous:  $(3, -5)$