

The graph of  $f(x)$  is given below. Use it to graph the following.

a)  $f(3x)$

b)  $f(-x)$

c)  $f(-2x)$

d)  $f(x - 1)$

e)  $f(x) + 1$

f)  $5f(x)$

g)  $f(x + 2)$

h)  $5f(3x + 2) + 1$

i) In your own words, describe the manner in which the graph of  $f(x)$  changes when we: multiply  $f(x)$  by a constant; add a constant to  $f(x)$ ; multiply  $x$  by a constant; add a constant to  $x$ .

j) Describe the process of drawing  $u(x) = af(bx + c) + d$ , where  $a$ ,  $b$ ,  $c$ , and  $d$  are constants when given only the graph of  $f(x)$ .

