

**5** **INSTRUCTIONAL NOTE** Each of the following functions is written in factored form, but the expanded form is certainly acceptable.

- a.  $f(x) = a(x - 4)(x + 1)$ , where  $a$  is any real number
- b.  $f(x) = a(x - 7)(x - 1)$ , where  $a$  is any positive real number
- c.  $f(x) = \frac{10}{9}(x - 7)(x - 1)$
- d.  $f(x) = ax(x + 5)$ , where  $a$  is any negative real number
- e.  $f(x) = -\frac{1}{2}(x - 3)(x + 5)$
- f.  $f(x) = ax(x - 3.5)$ , where  $a$  is any positive real number
- g.  $f(x) = 2(x - 4.5)(x - 1)$
- h.  $f(x) = a(x - m)(x - n)$ , where  $a$  is any real number
- i.  $f(x) = ax^2$ , where  $a$  is any real number
- j.  $f(x) = \frac{3}{2}(x - 2)^2$