

p. 430 even ans.

#18	8
#20	16
#22	1
#24	-3
#26	9.25

Suppose:  $f(x) = x^2$     $g(x) = x - 3$

(for any input  $x$ ) find:

$$(g \circ f)(x)$$

$$g(f(x))$$

$$g(x^2)$$

$$(g \circ f)(x) = x^2 - 3$$

$$(f \circ g)(x)$$

$$f(g(x))$$

$$f(x-3)$$

$$(f \circ g)(x) = (x-3)^2$$

$$\#42 \quad g(x) = 3x + 2 \quad f(x) = \frac{x-2}{3}$$

$$f(g(1))$$

$$f(3(1) + 2)$$

$$f(5)$$

$$\frac{5-2}{3}$$

$$1$$

$$\#49 \quad f(x) = 3x^2 + 2$$

$$g(x) = 2x$$

$$g(f(x))$$

$$f(g(x))$$

$$g(3x^2 + 2)$$

$$f(2x)$$

$$2(3x^2 + 2)$$

$$3(2x)^2 + 2$$

$$6x^2 + 4$$

$$= 3 \cdot 4x^2 + 2$$

$$= 12x^2 + 2$$