

How find taxes due?

1st - Subtract standard deduction from gross
 $\$5,700$

2nd - Take \$ times ~~10%~~ or 15%

Find for \$21,000:

1st: Subtract 5700
 $21000 - 5700 = \$15,300$

2nd: Multiply by .15
 $.15(15,300) = \$2,295$

6.3c Composition

$$f(x) = x - 5700$$

$$g(x) = .15x$$

For 21,000

$$g(f(x))$$

always do inside 1st
So do f function 1st

1st. f with \$21,000 \rightarrow \$15,300

2nd. g with \$15,300 \rightarrow \$2,295

$$f(x) = 2x - 7$$

$$g(x) = x^2 + 4$$

find

$$\textcircled{1} \quad g(f(3))$$

$$f \rightarrow 2(3) - 7$$

$$6 - 7 = -1$$

$$g \rightarrow (-1)^2 + 4$$

$$1 + 4 = \textcircled{5}$$

$$\textcircled{2} \quad f(g(3))$$

$$g \rightarrow 3^2 + 4$$

$$9 + 4 = 13$$

$$f \rightarrow 2(13) - 7$$

$$26 - 7 = \textcircled{19}$$

$$\textcircled{3} \quad f(f(\frac{1}{2}))$$

$$f \rightarrow 2(\frac{1}{2}) - 7$$

$$1 - 7 = -6$$

$$f \rightarrow 2(-6) - 7$$

$$-12 - 7 = \textcircled{-19}$$

Homework

$$f(x) = 2x + 4$$

$$\textcircled{1} g(f(-2))$$

$$g(x) = 4x - 7$$

$$\textcircled{2} g(f(1))$$

$$\textcircled{3} f(g(0))$$

$$f(x) = 3x + 2$$

$$\textcircled{4} f(g(-3))$$

$$g(x) = -x^2 \rightarrow -1 \cdot x^2$$

$$\textcircled{5} g(f(2))$$

$$\textcircled{6} f(f(7))$$

$$f(x) = 4x$$

$$\textcircled{7} f(g(x))$$

$$g(x) = 5x - 2$$

$$\textcircled{8} g(f(x))$$

$$\textcircled{9} g(g(x))$$