CH. 1, L3 – FUNCTIONS NOTATION

Interaction with New Material:

Ex. 1) Given the function $g(x) = \frac{x}{x^2-16}$, what is the value of $g(-10)$.

Ex. 2) Given the function $f(x) = -3x - 4$, write an expression for $f(a + 2)$

CFS:

1. Highlight important information and circle the question/prompt.
2. Input and output are annotated
3. Substitution is completed for entire function
4. Function is evaluated vertically and correctly
5. Answer is boxed

Partner Practice:

(Low Difficulty)

1. If $g(x) = 3x - 5$, evaluate:

a) $g(4)$	b) $g(-2)$	c) $g(a)$

2. If $f(x) = -7x - 6$, evaluate:

a) $f(a+1)$	b) $f(-4-a)$

CFS:

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(Medium Difficulty)

3. If $f(x) = -2x - 3$ and $g(x) = x^2 + 5x$, find each value

a. $f(-1)$	b. $g(-3)$	c. $f(4y)$
d. $g(-2) + 2$	e. $f(r + 2)$	f. $3[g(n)]$

4. Give the function, $f(x) = x^2 + 5x - 24$

a. Find f(0)	b. Find f(-1)	c. Find f(3)

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5. Given the function, $f(x) = \frac{x+3}{x-3}$

a. Find f(4)	b. Find f(6)	c. Find f(15)

6. If $f(x) = x - 3$ and $g(x) = x^2 + 2$

a. Find $f(0) + g(0)$	b. Find $f(1) \times g(2)$

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(Hard Difficulty)

7. Given the function $f(x) = \sqrt{x^2 + 2x + 4}$, find the exact value of the following:

a. $f(2)$	b. $f(0)$	c. $f(-4)$

8. A firm spends x dollars on product development and y dollars on advertising. Its profit is described by the following relationship $f(x, y) = 36{,}000 + 40x + 30y + \frac{xy}{100}$.
   a. What is profit if the firm spends \$2,000 on product development and \$5,000 on advertising?

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b. What is profit if the firm spends $10,000 on product development and $8,000 on advertising?

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