CH. 1, L4 – INTERPRETING FUNCTIONS IN CONTEXT

Interaction with New Material:

Ex. 1) Janise is going to a One Direction concert with her friends. Tickets are available online for $45 each plus an order handling fee of $3. The total cost is a function of the number of tickets bought. The following function represents the total cost. $f(n) = 45n + 3$

Explain the meaning in context of the following:

(a) $f(3)$

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(b) $f(n) = 48$

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(c) $f(5) > f(2)$

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(d) Evaluate part (A) and (B).

Part (A)	Part (B)

CFS:

1. Highlight important information and circle the question/prompt.
2. Input and output are annotated with units
3. When needed, an equality statement of the input and output is written
4. Inputs and outputs are described in the context of the problem in a complete sentence

Partner Practice:
(Low Difficulty)

1. Baby Kana's parents measure her height every month. $H(t)$ models Kana's height (in inches) when she was *t* months old.
    a. What is the input and output of this situation?

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    b. What does $H(24) = 36$ represent given this context?

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2. The function $f(x) = 2x + 1$ describes the relationship between the total cost of a trip on the subway as a function of the number of stops you pass.

    a. What is the input and output of this situation?

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    b. What does $f(3)$ represent?

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    c. Evaluate $f(4)$ and explain what it means in context.

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(Medium Difficulty)

3. Jayce is a taxi driver. $M(n)$ models Jayce's fee in dollars for his nth drive on a certain day.

   a. What does $M(10)$ represent?

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   b. What does $M(n) = 95$ represent?

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   c. What does $M(3) > M(4)$ represent?

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4. The function $g(x) = \frac{3x-1}{2}$ is used to describe the total score in a video game after racing *x* miles.

   a. What is the input and output of this situation?

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   b. What does $g(3)$ represent?

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   c. Evaluate $g(3)$ and explain what it means in context.

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5. Copacabana beach in Rio de Janeiro is one of the most popular beaches in the world. $P(t) = x^2 + 2x + 2$ models the number of people at the beach, t hours past midnight on a specific day.
   a. Describe the inputs and outputs of this function

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   b. What does $P(10)$ represent?

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   c. What does $P(t) = 1{,}250$ represent?

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   d. How many people can you expect to be on the beach at 11am in Copacabana? Express your answer in function notation.

   e. How many people can you expect to be on the beach at 1pm in Copacabana? Express your answer in function notation.

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f. What does $P(12) < P(13)$ represent?

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g. What does $P(t) > 1000$ represent?

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(Hard Difficulty)

6. Alex went for a walk today. The function $D(t)$ models the distance Alex walked in kilometers after t hours.

a. What does $D(0.5) < D(1) - D(0.5)$ represent in this context?

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b. What must be true about the speed at which Alex walked during the first part of his walk compared to the second part of his walk? How do you know?

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7. Given the graph below, explain what you think the function $f(m)$ represents and use this to evaluate and explain $f(30)$.

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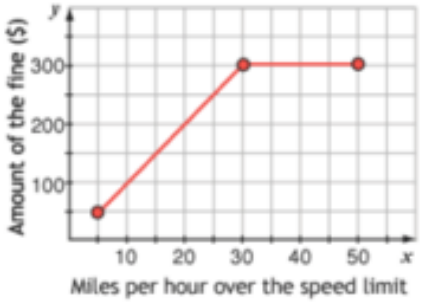

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