

NAME: _____

P.I. A2.A.42: Use functional notation to evaluate functions for given values in the domain

1. Find $f(3)$ given $f(x) = -2x^2 - 3x - 6$.

- [A] -51 [B] -27 [C] -33 [D] -21

2. If $P(x) = x^2 - 6x - 5$, find $P(-4)$.

- [A] -45 [B] 35 [C] -13 [D] -35

3. Find $f(2)$ given $f(x) = 3x^2 + 2x + 16$.

4. If $P(x) = -x^2 - 2x - 8$, find $P(-1)$ and $P(2)$.

5. Evaluate the function for $m = 2$.

$f(m) = 0.5^m$

- [A] 2.5 [B] 1.41421 [C] 1 [D] 0.25

6. Which of the following are *not* input/output pairs for the function $f(n) = -2n + 3$?

[A] $f(3) = -3$ [B] $f(5) = -7$

[C] $f(2) = 1$ [D] $f(1) = 1$

7. Which function is greatest at $x = 4$?

[A] $f(x) = 3^x$ [B] $f(x) = 3 \cdot x^3$

[C] $f(x) = x^3$

[D] none of the functions is greater than the others

8. Model the rule with a table of values.
 $-5x^2 - 20x - 1$

[A]

x	-3	-2	-1	0
$f(x)$	-14	19	12	1

[B]

x	-3	-2	-1	0
$f(x)$	14	-19	16	-1

[C]

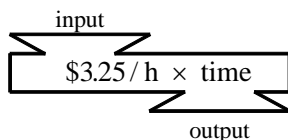
x	-3	-2	-1	0
$f(x)$	16	16	14	-2

[D]

x	-3	-2	-1	0
$f(x)$	14	19	14	-1

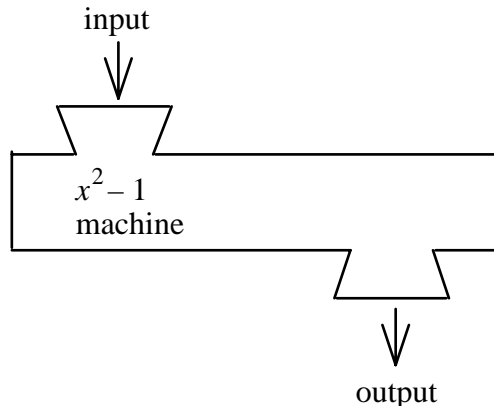
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9. The function machine below shows Molly's hourly wage. Suppose Molly works 9 hours (input). What are her wages ?



- [A] \$12.25 [B] \$29.25
[C] \$32.50 [D] \$3.25

10. On the function machine shown below, the function rule is given as a variable expression. When the output is 99, what is the input?



- [A] 20 [B] 9 [C] 100 [D] 10

11. Compare the quantity in Column A with the quantity in Column B.

$$f(x) = x^2 - 4x + 5, \quad g(x) = 3x^2$$

Column A Column B

$$f(-5) \qquad g(4)$$

- [A] The quantity in Column A is greater.
[B] The quantity in Column B is greater.
[C] The two quantities are equal.
[D] The relationship cannot be determined on the basis of the information supplied.

12. Compare the quantity in Column A with the quantity in Column B. Choose the best answer.

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

Column A Column B

$$f(-3) \qquad f(1)$$

- [A] The quantity in Column A is greater.
[B] The quantity in Column B is greater.
[C] The two quantities are equal.
[D] The relationship cannot be determined on the basis of the information supplied.

[1] C

[2] B

[3] 32

[4] $P(-1) = -7; P(2) = -16$

[5] D

[6] C

[7] B

[8] D

[9] B

[10] D

[11] A

[12] C