

NAME: _____

1. 060406b, P.I. A2.A.41

If $f(x) = 4x^0 + (4x)^{-1}$, what is the value of $f(4)$?

- [A] $1\frac{1}{16}$ [B] 0 [C] $4\frac{1}{16}$ [D] -12

2. 080701b, P.I. A2.A.41

If $f(x) = (x^{-x} - x^0 + 2^x)$, then $f(3)$ is equal to

- [A] -21 [B] $7\frac{1}{27}$
[C] -22 [D] $8\frac{1}{27}$

3. 010220b

The revenue, $R(x)$, from selling x units of a product is represented by the equation $R(x) = 35x$, while the total cost, $C(x)$, of making x units of the product is represented by the equation $C(x) = 20x + 500$. The total profit, $P(x)$, is represented by the equation $P(x) = R(x) - C(x)$. For the values of $R(x)$ and $C(x)$ given above, what is $P(x)$?

- [A] $15x - 500$ [B] $10x + 100$
[C] $15x$ [D] $15x + 500$

4. 080332b

A company calculates its profit by finding the difference between revenue and cost. The cost function of producing x hammers is $C(x) = 4x + 170$. If each hammer is sold for \$10, the revenue function for selling x hammers is $R(x) = 10x$. How many hammers must be sold to make a profit? How many hammers must be sold to make a profit of \$100?

[1] B

[2] 0.001

[3] 3.03

[4] a. \$12 b. moderate

[5] $y = 2x + 5$

[6] $0.5x^3 + 0.6x^2 + 0.3x - 0.4$; 741 thousand

[7] 1.99 footcandles

[8] B

[9] $\frac{x-5}{x-8}$

[10] B