1.(1 pt) Consider the function $f(x) = 28x^3 - 15x^2 + 18x - 10$. Enter an antiderivative of $f(x)$

2.(1 pt) Consider the function $f(x) = 2x^3 - 10x^2 + 2x - 5$. An antiderivative of $f(x)$ is $F(x) = Ax^4 + Bx^3 + Cx^2 + Dx$ where A is ____ and B is ____ and C is ____ and D is ____

3.(1 pt) Consider the function $f(x) = 7x^{10} + 6x^7 - 7x^3 - 7$. Enter an antiderivative of $f(x)$

4.(1 pt) Consider the function $f(x) = 3x^8 + 5x^7 - 4x^4 - 10$. An antiderivative of $f(x)$ is $F(x) = Ax^n + Bx^m + Cx^p + Dx^q$ where

A is _____ and n is _____
and B is _____ and m is _____
and C is _____ and p is _____
and D is _____ and q is _____

5.(1 pt) Consider the function $f(x) = \dfrac{3}{x^3} - \dfrac{2}{x^5}$.
Let $F(x)$ be the antiderivative of $f(x)$ with $F(1) = 0$.
Then $F(x) =$ _____

6.(1 pt) Consider the function $f(x) = \frac{7}{x^3} - \frac{6}{x^7}$.
Let $F(x)$ be the antiderivative of $f(x)$ with $F(1) = 0$.
Then $F(4)$ equals _____

7.(1 pt) Consider the function $f(t) = 4\sec^2(t) - 7t^3$. Let $F(t)$ be the antiderivative of $f(t)$ with $F(0) = 0$.
Then $F(t)$ equals

8.(1 pt) Consider the function $f(t) = 4\sec^2(t) - 7t^2$. Let $F(t)$ be the antiderivative of $f(t)$ with $F(0) = 0$.
Then $F(2) =$ _____

9.(1 pt) Consider the function $f(x)$ whose second derivative is $f''(x) = 7x + 7\sin(x)$. If $f(0) = 4$ and $f'(0) = 3$, what is $f(x)$?

10.(1 pt) Consider the function $f(x)$ whose second derivative is $f''(x) = 4x + 2\sin(x)$. If $f(0) = 2$ and $f'(0) = 3$, what is $f(3)$?

11.(1 pt) Given $f''(x) = -25\sin(5x)$ and $f'(0) = 5$ and $f(0) = 5$.
Find $f(\pi/3) =$ _____
Remember: The angles for sin and cosine are always (well... almost always) in radians!

12.(1 pt) Given
$$f''(x) = 6x - 5$$
and $f'(-2) = -5$ and $f(-2) = 2$.
Find $f'(x) =$ _____
and find $f(4) =$ _____

13.(1 pt) Given that the graph of $f(x)$ passes through the point $(9,4)$ and that the slope of its tangent line at $(x, f(x))$ is $5x + 5$, what is $f(3)$? _____

14.(1 pt) A particle is moving with acceleration $a(t) = 30t + 8$. its position at time $t = 0$ is $s(0) = 8$ and its velocity at time $t = 0$ is $v(0) = 16$. What is its position at time $t = 3$? _____

15.(1 pt) A car traveling at 45 ft/sec decelerates at a constant 3 feet per second squared. How many feet does the car travel before coming to a complete stop?

16.(1 pt) A ball is shot straight up into the air with initial velocity of 41 ft/sec. Assuming that the air resistance can be ignored, how high does it go?

Hint: The acceleration due to gravity is 32 ft per second squared.

17.(1 pt) A ball is shot at an angle of 45 degrees into the air with initial velocity of 46 ft/sec. Assuming no air resistance, how high does it go?

How far away does it land?

Hint: The acceleration due to gravity is 32 ft per second squared.

18.(1 pt) A stone is thrown straight up from the edge of a roof, 700 feet above the ground, at a speed of 12 feet per second.
A. Remembering that the acceleration due to gravity is -32 feet per second squared, how high is the stone 4 seconds later? ____
B. At what time does the stone hit the ground? _____
C. What is the velocity of the stone when it hits the ground? ___

19.(1 pt) A stone is thrown straight down from the edge of a roof, 1125 feet above the ground, at a speed of 7 feet per second.
A. Remembering that the acceleration due to gravity is -32 feet per second squared, how high is the stone 2 seconds later? ____
B. At what time does the stone hit the ground? _____
C. What is the velocity of the stone when it hits the ground? ___

20.(1 pt) A stone is dropped from the edge of a roof, and hits the ground with a velocity of -130 feet per second. How high (in feet) is the roof? _____

21.(1 pt) Let $f(x) = \dfrac{2}{x} - 10e^x$.
Enter an antiderivative of $f(x)$

22.(1 pt) Let $f(x) = \dfrac{-12}{\sqrt{1-x^2}}$.
Enter an antiderivative of $f(x)$

23.(1 pt) Let $f(x) = \dfrac{6}{x^2+1}$.
Enter an antiderivative of $f(x)$