1. (1 pt) Consider the function \( f(x) = 2 - 5x^2 \) on the interval \([-4, 3]\). Find the average or mean slope of the function on this interval, i.e. 
\[
\frac{f(3) - f(-4)}{3 - (-4)} =
\]
By the Mean Value Theorem, we know there exists a \( c \) in the open interval \((-4, 3)\) such that \( f'(c) \) is equal to this mean slope. For this problem, there is only one \( c \) that works. Find it.

2. (1 pt) Consider the function 
\[
f(x) = -1x^3 + 3x^2 - 2x + 3
\]
Find the average slope of this function on the interval \((3, 5)\). 
By the Mean Value Theorem, we know there exists a \( c \) in the open interval \((3, 5)\) such that \( f'(c) \) is equal to this mean slope. Find the value of \( c \) in the interval which works.

3. (1 pt) Consider the function \( f(x) = 2x^3 - 4x \) on the interval \([-5, 5]\). Find the average or mean slope of the function on this interval.
By the Mean Value Theorem, we know there exists at least one \( c \) in the open interval \((-5, 5)\) such that \( f'(c) \) is equal to this mean slope. For this problem, there are two values of \( c \) that work. The smaller one is _________ and the larger one is _________

4. (1 pt) Consider the function \( f(x) = 2x^3 - 3x^2 - 72x + 8 \) on the interval \([-6, 10]\). Find the average or mean slope of the function on this interval.

By the Mean Value Theorem, we know there exists a \( c \) in the open interval \((-6, 10)\) such that \( f'(c) \) is equal to this mean slope. For this problem, there are two values of \( c \) that work. The smaller one is _________ and the larger one is _________

5. (1 pt) Consider the function \( f(x) = \frac{1}{x} \) on the interval \([3, 6]\). Find the average or mean slope of the function on this interval.

By the Mean Value Theorem, we know there exists a \( c \) in the open interval \((3, 6)\) such that \( f'(c) \) is equal to this mean slope. For this problem, there is only one \( c \) that works. Find it.

6. (1 pt) Consider the function \( f(x) = 4\sqrt{x} + 5 \) on the interval \([4, 9]\). Find the average or mean slope of the function on this interval.

By the Mean Value Theorem, we know there exists a \( c \) in the open interval \((4, 9)\) such that \( f'(c) \) is equal to this mean slope. For this problem, there is only one \( c \) that works. Find it.