Difference Quotient, Average Rate of Change, Even/Odd Functions

1. Evaluate the difference quotient for the given function and simplify your answer. $f(x) = x^2 - x + 1$ $f(x) = \frac{f(2+h) - f(2)}{h}, h \neq 0$	2. Evaluate the difference quotient for the given function and simplify your answer. $f(x) = x^3 + 3x$ $f(x) = \frac{f(x+h) - f(x)}{h}, h \neq 0$
3. Evaluate the difference quotient for the given function and simplify your answer. $f(x) = \frac{1}{x^2}$ $f(x) = \frac{f(x) - f(3)}{x - 3}, x \neq 3$	4. Evaluate the difference quotient for the given function and simplify your answer. $f(x) = \sqrt{5x}$ $f(x) = \frac{f(x) - f(5)}{x - 5}, x \neq 5$
5. Find the average rate of change for the function from x_1 to x_2. $f(x) = -2x + 15$ $x_1 = 0, x_2 = 3$	6. Find the average rate of change for the function from x_1 to x_2. $f(x) = x^2 + 12x - 4$ $x_1 = 1, x_2 = 5$
7. Find the average rate of change for the function from x_1 to x_2. $f(x) = x^3 - 3x^2 - x$ $x_1 = 1, x_2 = 3$	8. Find the average rate of change for the function from x_1 to x_2. $f(x) = -\sqrt{x-2} + 5$ $x_1 = 3, x_2 = 11$
9. Determine whether the function is even, odd, or neither and then describe the symmetry. $f(x) = x^3 - 2x^2 + 3$	10. Determine whether the function is even, odd, or neither and then describe the symmetry. $f(x) = x^3 - 5$
11. Determine whether the function is even, odd, or neither and then describe the symmetry. $f(x) = x^3 - 5x$	12. Determine whether the function is even, odd, or neither and then describe the symmetry. $f(x) = x^2 + 2x - 3$