Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [4 points] Find the domain of the function $f(x) = \dfrac{4 - x^2}{x^2 + 7x - 30}$.

2. [4 points] A liquor distributor sells the first 30 cases of Delicious Ice® at \$10.00 each. If the order is for more than 30 cases, each additional case is sold at the discount price of \$7.00. Write down a piece-wise function $C(n)$ for the total cost C of purchasing n cases of Delicious Ice®.

3. [4 points] Find the average rate of change of the function $g(x) = x^2 + 3x - 10$ on $[1, 4]$.