1. Find the domain of the function \( f(x) = \frac{x}{\sqrt{(x-3)(x+2)}} \) algebraically.

\[ \text{Domain} = \] 

Next, graph \( y = f(x) \) to check your algebraic solution.

Based on your graph, what do you conjecture the range of the function to be?

\[ \text{Range} = \] 

2. A 50 foot by 30 foot rectangular site is to be covered in grass sod, except for a concrete path on two adjacent sides. Suppose the grass sod costs $3 per square foot and the concrete path costs $20 per square foot.

Find a formula for the function which expresses the cost of these improvements as a function of the width \( x \) of the path.

(Hint: draw a picture first)

Cost function \( C(x) = \) 

What is the domain of your function? Domain =

What is the range of your function? Range =

3. Find a viewing window which makes the graph of \( y = -2x \) pass through both the top left and bottom right corners of the calculator window, when XMIN = -10 and XMAX = 10.

\[ [\_,\_,\_] \times [\_,\_,\_] \]