Directions: This is a **group** assignment. This time your group will be assigned to you. Please list your group members:

STUDENT 1	
STUDENT 2	
STUDENT 3	
STUDENT 4	

The group is responsible for understanding how to do the problems however we will take turns doing different roles.

1. Determine whether $\int_{-\infty}^{2} \dfrac{x}{\sqrt{x^2 + 4}}\,\mathrm{d}x$ converges or diverges.

STUDENT 1 What is the group consensus?	STUDENT 2 In words, please explain how your group came to that consensus. (explain the argument)
STUDENT 3 There is at least two approaches to take in answering this question. Provide an alternative argument that supports the group consensus.	STUDENT 4 As a final check, Sketch a plot of the integrand and shade the area of the integral.

2. Determine whether $\int_1^{10} \dfrac{1}{x^2 - 4x - 32}\,\mathrm{d}x$ converges or diverges.

STUDENT 1 Compute the antiderivative of the integrand.	STUDENT 2 Check the antiderivative of from Student 1 by taking the derivative.
STUDENT 3 compute the improper integral using the antiderivative found and verified by students 1 and 2.	STUDENT 4 Sketch a plot of the integrand and shade the area of the integral.