Algebra I
Medical Equipment

Name _____

Hour _____

1) A company produces medical equipment that need to be very precise. They use the formula $e = |p - I|$ to calculate the error in the thickness of a piece of equipment. e is the error in the thickness of a piece of equipment, p is the actual thickness of the product and I is the ideal thickness that they want the equipment to be. The ideal thickness of the equipment is 10 mm.

a) What is the error in thickness if the actual thickness of one of the devices is 9.84 mm?

a)_____

b) What is the error in thickness if the actual thickness of one of the devices is 10.052 mm?

b)_____

c) Write the function for the medical equipment given the ideal thickness is 10 mm.

d) Complete the table below and sketch the graph of the function from part c. Label the axis on the graph.

Actual thickness	Error
8	
8.5	
9	
9.5	
10	
10.5	
11	
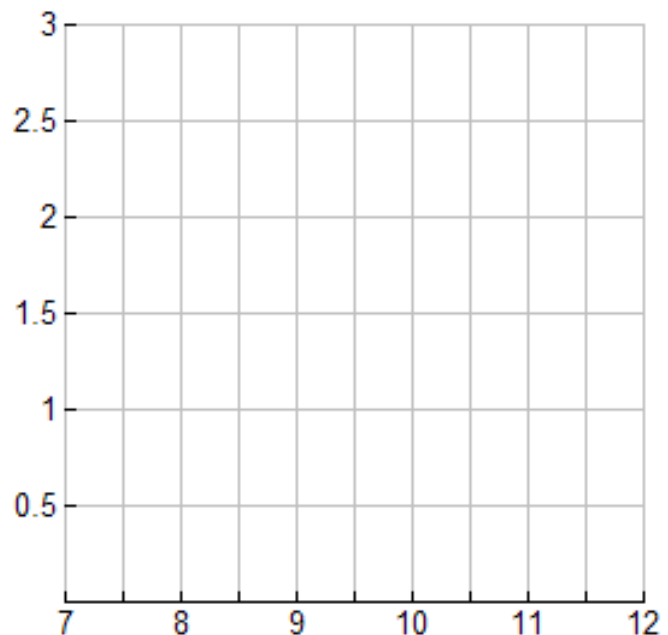
e) State the domain and range of the function given this situation. Explain your reasoning.

f) If the error is 0.15 mm what is the thickness of the piece of equipment? Justify your solution.

g) If the error is 0.04 mm what is the thickness of the piece of equipment? Justify your solution.