1. (3 Points) What is the net reaction of glycolysis?

Answer: glucose + 2NAD$^+$ + 2ADP + 2Pi $\rightarrow$ 2Pyruvate + 2NADH + 2ATP + 2H$^+$

2. Glyceraldehyde-3P + NAD$^+$ + Pi $\rightarrow$ 1,3-Bisphosphoglycerate + NADH + H$^+$

(a) (2 Points) What enzyme catalyzes the above reaction?

Answer: Glyceraldehyde-3-Phosphate Dehydrogenase

(b) (5 Points) Write the reaction mechanism for the reaction shown above.