Name:

Pre-Assessment Day 1 Answer Key

1. Describe how your brain helps you command your arm to pick up a glass of juice.

Once your brain decides to pick up the glass, neurons in your motor cortex command the muscles in your hand to move appropriately and pick up the glass. In the process, your brain uses feedback from your eyes (such as whether it is going toward the glass, picking it up, etc.) and makes sure it is done as intended!

2. Your brain is the controller for your body. List four functions it performs.

Example answers: Breathing, pumping blood by controlling heart, walking, drawing, thinking, planning, memory, speaking, sensing, etc.

3. Are there differences between a robot and a machine? Explain with at least two examples of each.

Robots are programmable devices (machines) that can take inputs about their environment (sensors) and use this information to decide (think, algorithm) on task and instructions, and exert forces (actuators, transducers, motors) that impact their surroundings in a physical way either in a simple or complex manner. Examples: unitree robot, autonomous vacuum cleaner Machines are devices (maybe programmable) that follow a specific set of instructions (specific, limited). Examples: washing machine, drying machine, blender, vending machine, etc.



