Name: _____ Date: _____

Is It a Robot?

Reading level 8 (4th grade) · 874 words

A small machine rolls across Marisol's kitchen floor at seven in the morning, and nobody pushes it. Is it a robot? Marisol is a robot technician, so people ask her this a lot. She keeps a card in her pocket with three words on it. Sense. Decide. Act.

Here is her test. A robot senses: it takes in facts about the world around it. A robot decides: its computer follows rules to pick its next move. Then a robot acts: it moves something. ISO, a world group, writes standards. Its book says a robot is programmed. It moves. It can act a little on its own.

The machine on the floor is a robot vacuum. Marisol starts with what it senses. Its front bumper bumps a table leg, and the robot slows down and taps the leg gently before it turns. Other sensors look for a cliff. A cliff is a drop, like the top of a flight of stairs.

Now for the deciding. One maker says its vacuum slows down. Then it taps an object gently with its bumper and changes direction. The maker says a drop of 3.5 inches or more counts as a cliff. Marisol calls this deciding. But it is a simple rule that someone wrote. Then the vacuum acts, because motors turn its wheels.

Machines can be fooled, and Marisol knows it. The maker says the bumper may sense things less well when they are under two inches wide. A dark floor can look like a drop to the cliff sensors. So she never trusts a machine to notice everything. She cleans the sensors. Then the vacuum goes back to work.

Sensors are not the only risk. Some robot toys have an app. The FTC is a U.S. government agency. It lists a child's private facts: full name, address, phone number, email and location. Photos, videos and voice recordings count too. Type none of them into a robot's app. Ask a grown-up to set it up.

A toy truck with a remote fails her test. A person does the deciding, not the truck, and the rule book names a close case. An arm that a person steers from far away is not called a robot. It is called a robotic device. Marisol likes how exact that is.

At eight she walks into a factory. An arm stands by a long table. It has six joints. A joint is a place where the arm can turn. A sensor in each joint tells the arm how far it has turned. Electric motors do the turning. A computer follows a program to pick what comes next.

Marisol's arm has a very old cousin. In 1961, an arm at General Motors began to stack hot pieces of metal. It was called Unimate, and it weighed 4,000 pounds. Its steps were stored on a magnetic drum, a kind of memory. A history museum calls it the first mass-made factory robot.

How many robots like this are at work? A group called the IFR counts them each year. At the end of 2025, there were about five million in factories around the world. That is the newest count, and the IFR shared it in September 2026. Marisol is one of the people who keep them running.

At noon she is in a warehouse. Amazon said in 2025 that it had put its one-millionth robot to work. Amazon says a tool called DeepFleet helps steer them, like traffic control for a busy city. Marisol watches the machines glide by. She checks each one against her card.

One cart only follows a path that was laid out for it. Can it decide? No. The rule book says a cart like that is not a robot. It cannot choose its own path. Next to it, another machine finds its way around a box in the aisle, and that one travels under its own control.

Marisol stops by one more machine in the building, an arm with a sense of touch. Amazon says its force sensors tell it how hard it is pushing or holding. So it stays below the point where it could harm something. If it cannot move an item, it can ask a person to take over.

That night Marisol reads about a robot much farther away. Perseverance is a NASA rover on Mars. It has six wheels. A radio message can take four to 22 minutes to get there, so nobody can steer it live. It senses with cameras. A NASA engineer says it makes its own choices about the path. Then it drives itself.

Marisol reads on. On October 11, 2026, Perseverance passed a record. NASA said it had now gone farther than any vehicle ever driven on another world. That is about 28 miles. Most of those miles it drove by itself, with a self-driving tool called AutoNav. People still pick where it goes. The rover works out how to get there.

Back in the kitchen, the vacuum bumps a chair leg. It turns and rolls on. Marisol takes out her card and reads it once more. Sense. Decide. Act. A bump, a turn, a new path across the floor. She puts the card away. The vacuum finishes the floor on its own.

Questions

1. What three words are on Marisol's card?

A. See, think, move
B. Sense, decide, act
C. Push, pull, stop

2. Why does a toy truck steered by remote control fail her test?

A. It has no wheels
B. It is too small
C. A person does the deciding

3. In this book, a "sensor" is a part that

A. picks up information
B. stores power
C. turns the wheels

4. Why can nobody steer Perseverance live?

A. Its wheels are too slow
B. Radio messages take minutes to reach Mars
C. It has no cameras

5. Why does Marisol never trust a robot to notice everything?

A. Robots can miss thin objects or mistake a dark floor for a drop
B. Robots never use sensors
C. Robots only work at night

6. Which of these should a child keep private?

A. A favorite color
B. A full name and address
C. A robot's name

Words to know

technician: repair expert
sensor: detecting part
bumper: front guard
joint: turning place
rover: wheeled explorer

Answer key: Is It a Robot?

1. B. Sense, decide, act
2. C. A person does the deciding
3. A. picks up information
4. B. Radio messages take minutes to reach Mars
5. A. Robots can miss thin objects or mistake a dark floor for a drop
6. B. A full name and address