

Name \_\_\_\_\_

## Who Solved That?

Every invention in Artificial Intelligence began with a problem. Scientists and engineers asked big questions: *Can machines think? Can they talk? Can they beat us at our own games?* Each time, someone came up with a clever solution. Your job is to connect the problems AI researchers faced with the inventions that solved them. This way, you'll see how the history of AI is really a history of people solving puzzles one at a time.



**What To Do** - Read each problem carefully. Then look at the list of inventions below. Match the problem with the invention that best solved it by writing the correct letter in the blank. Taking your time may seem similar, so think about the details. When you're finished, reflect on the bigger picture questions at the end.

## The Problems

1. Can AI systems be built to make predictions from huge amounts of messy data?
2. Can a machine generate full paragraphs of natural, human-like writing-essays, stories, even jokes?
3. How can we test if a machine can actually "think" like a human in conversation?
4. Can a program understand and use everyday human language rather than just numbers?
5. Can AI handle a game far more complex than chess, with almost endless moves?
6. How can a computer learn patterns on its own instead of being told every single rule?
7. Can a machine hold a conversation that feels real, even if it doesn't truly understand?
8. Can a computer beat the best human chess player in the world?

## The Inventions

- A. **Turing Test (1950)** – A test proposed by Alan Turing: if a machine could fool a person in conversation, it might be called intelligent.
- B. **Perceptron (1958)** – The first neural network model, built to recognize patterns and learn from examples.
- C. **ELIZA (1966)** – A program that imitated a psychotherapist, showing computers could "talk" in a limited way.
- D. **IBM Deep Blue (1997)** – The computer that defeated chess champion Garry Kasparov, shocking the world.
- E. **AlphaGo (2016)** – A program that conquered the ancient game of Go, proving AI could handle mind-bending complexity.
- F. **GPT-3 (2020)** – A language model able to write essays, answer questions, and even crack jokes in natural language.
- G. **Expert Systems (1970s–1980s)** – Programs built to store human knowledge and make decisions like an expert in medicine or science.
- H. **Natural Language Processing (1980s–1990s)** – Tools and methods that allowed computers to start truly processing human speech and text.