1. (**POGIL**) Define a ***pseudocode algorithm*** that will efficiently play the guessing game.

**Answer**

|  |
| --- |
| Min <- 0  Max <- 100  Mid <- 50  While Guess =/= Answer  IF Guess > Answer  Max <- Mid  Mid <- (Max + Min)/2  IF Guess < Answer  Min <- Mid  Mid <- (Max + Min)/2  GUESS using the Mid Value, round down decimals |

2. (**POGIL**) To guess a number between 1 and 100, what's the maximum number of guesses your algorithm would take?

**Answer**

|  |
| --- |
| 7 guesses total |

3. (**POGIL**) To guess a number between 1 and 500, what's the maximum number of guesses your algorithm would take?

**Answer**

|  |
| --- |
| 9 guesses total |

4. Suppose you have a deck of cards and you want to find the Ace of Spades. If the deck is shuffled, which is the best search algorithm to use and why?

**Answer**

|  |
| --- |
| **The best search algorithm for this task would be a linear search algorithm** |

5. Give an example of a search problem you encounter in everyday life. Does it use sequential, binary, or some other search algorithm?

**Answer**

|  |
| --- |
| **A search algorithm that I use daily is google** |