# Java Quick Reference

*Accessible methods from the Java library that may be included in the exam*

| Class Constructors and Methods | Explanation |
|---|---|
| **String Class** | |
| `String(String str)` | Constructs a new `String` object that represents the same sequence of characters as `str` |
| `int length()` | Returns the number of characters in a `String` object |
| `String substring(int from, int to)` | Returns the substring beginning at index `from` and ending at index `to - 1` |
| `String substring(int from)` | Returns `substring(from, length())` |
| `int indexOf(String str)` | Returns the index of the first occurrence of `str`; returns `-1` if not found |
| `boolean equals(String other)` | Returns `true` if `this` is equal to `other`; returns `false` otherwise |
| `int compareTo(String other)` | Returns a value `<0` if `this` is less than `other`; returns zero if `this` is equal to `other`; returns a value `>0` if `this` is greater than `other` |
| **Integer Class** | |
| `Integer(int value)` | Constructs a new `Integer` object that represents the specified `int` value |
| `Integer.MIN_VALUE` | The minimum value represented by an `int` or `Integer` |
| `Integer.MAX_VALUE` | The maximum value represented by an `int` or `Integer` |
| `int intValue()` | Returns the value of this `Integer` as an `int` |
| **Double Class** | |
| `Double(double value)` | Constructs a new `Double` object that represents the specified `double` value |
| `double doubleValue()` | Returns the value of this `Double` as a `double` |
| **Math Class** | |
| `int abs(int x)` | Returns the absolute value of an `int` value |
| `double abs(double x)` | Returns the absolute value of a `double` value |
| `double pow(double base, double exponent)` | Returns the value of the first parameter raised to the power of the second parameter |
| `double sqrt(double x)` | Returns the positive square root of a `double` value |
| `double random()` | Returns a `double` value greater than or equal to `0.0` and less than `1.0` |
| **ArrayList Class** | |
| `int size()` | Returns the number of elements in the list |
| `boolean add(E obj)` | Appends `obj` to end of list; returns `true` |
| `void add(int index, E obj)` | Inserts `obj` at position `index` (`0 <= index <= size`), moving elements at position `index` and higher to the right (adds 1 to their indices) and adds 1 to size |
| `E get(int index)` | Returns the element at position `index` in the list |
| `E set(int index, E obj)` | Replaces the element at position `index` with `obj`; returns the element formerly at position `index` |
| `E remove(int index)` | Removes element from position `index`, moving elements at position `index + 1` and higher to the left (subtracts 1 from their indices) and subtracts 1 from size; returns the element formerly at position `index` |
| **Object Class** | |
| `boolean equals(Object other)` | |
| `String toString()` | |