

Name: _____

1. Valid or Invalid syntax? Explain why

<pre>int books = "6"; int notebooks = 3; books += notebooks;</pre>	
<pre>System.out.print("Cat count = , numCats);</pre>	
<pre>if ((a => 5) && (a =< 9)) a = a * 7; else a = a * 3;</pre>	
<pre>String s1 = "Hi"; String s2 = "bye"; boolean b = s1 > s2;</pre>	
<pre>int very short = 1;</pre>	
<pre>int 3rdPlace = 6;</pre>	
<pre>String s1 = "Hello"; String s2 = "Bye"; s1 = s1.concat(s1);</pre>	

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2. During text messaging, people use abbreviations to save on typing. Expand the program below to recognize and translate the following abbreviations:

- AAS – Alive And Smiling
- FYI – For Your Information
- BAU – Business As Usual

If the abbreviation is not included in the list, your program should output “Unknown Abbreviation” for the translation. The input should be case insensitive, and the output should be as shown above.

```
import java.util.Scanner;
```

```
public class SMSAbbreviations3 {
```

```
    public static void main(String[] args) {
```

```
        Scanner scnr = new Scanner(System.in);
```

```
        System.out.println("Enter The SMS Abbreviation: ");
```

```
        String abbreviation = scnr.nextLine();
```

```
        String translation = "";
```

```
        /* Your solution goes here */
```

```
        System.out.println(abbreviation + " means " + translation);
```

```
        return;
```

```
    } }
```

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3. Write a program that converts kilometers to miles, where $1 \text{ km} = 0.62 \text{ miles}$.
The miles must be provided by the user.

4. Write a program that asks user for their name and the name of their favorite pet, and outputs their name and the amount of characters in their pet's name. For example, if Linda's pet is called Lacy, then output should be:
"Linda, Lacy has 4 characters".

Note: String method for the size of the string is `length()`.

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5. Given the following string definition:

```
String str = "Peace and Education for All!";
```

- a. Write the Java statement that would return the length of str.
- b. What is the length of str?
- c. Write the Java statement to find the index of the substring "Education":
- d. What is the index of the substring "For"?
- e. What does the Java statement `str.substring(10, 19)` return?
- f. What is the Java statement to change the word "and" to the word ", Justice and":
- g. Write the Java statement to append the string " Now!!!"

6. Write a Java method to find the smallest number among two numbers