

Lesson 3 Instructor Answer Key

Input and Decisions

Equivalent correct answers are acceptable when the code compiles, runs, and uses the required input and decision concepts.

Exercise 1 Sample Answers

Condition	True When
batteryPercent >= 50	batteryPercent is 50 or greater.
motorCount == 4	motorCount is exactly 4.
temperature < 80	temperature is less than 80.
teamNumber != 0	teamNumber is not 0.

Exercise 2 Sample Answer

```
motorCount >= 4
```

Exercise 3 Bug Fixes

Buggy Code	Corrected Code
<code>cin << batteryPercent;</code>	<code>cin >> batteryPercent;</code>
<code>if batteryPercent >= 50 {</code>	<code>if (batteryPercent >= 50) {</code>
<code>cout << "Ready" << endl</code>	<code>cout << "Ready" << endl;</code>
<code>if (batteryPercent = 50) {</code>	<code>if (batteryPercent == 50) {</code> or <code>if (batteryPercent >= 50) {</code>

Skill Check Sample Answer

```
#include <iostream>

using namespace std;

int main() {
    int batteryPercent = 0;
    int motorCount = 0;

    cout << "Enter battery percent: ";
```

```

cin >> batteryPercent;

cout << "Enter motor count: ";
cin >> motorCount;

if (batteryPercent >= 50 && motorCount >= 4) {
    cout << "Robot is ready for practice." << endl;
} else {
    cout << "Robot needs a pit check." << endl;
}

return 0;
}

```

Suggested Rubric

Result	Description
Ready	Student reads inputs, writes a correct if else, tests both outcomes, and can explain the condition.
Almost ready	Program works after small syntax help or one logic correction.
Needs support	Student cannot yet connect input, comparison, and branch behavior without direct support.