ANSWER KEY

Answer Key: Day 3

Every page for this day is keyed, and nothing is left as "answers will vary." This file covers the bell ringer, the guided notes and the exit ticket. In this folder, the key for the 1.1 Quiz Task sheet is in Activity_and_Lab_Keys.pdf and the lesson quiz has its own key.

Bell Ringer: Laps and Powers

```
1  laps = 10
2  laps //= 3
3  laps **= 2
4  print(laps)
```

Model response

`laps //= 3` makes `laps` 3, and `laps **= 2` makes it 9, so the program prints 9. Line 2 does the same job as `laps = laps // 3`.

Look for this idea in the student's own words.

Guided Notes: Day 3

Blanks are shown filled in, in order.

Update operators

```
1  laps = 10
2  laps //= 3
3  laps **= 2
4  print(laps)
```

Output

```
9
```

An **update operator** like `//=` or `**=` uses a variable's old value and stores a new one.

`laps //= 3` does the same job as `laps = laps // 3`.

Exponent order

```
1  print(2 ** 2 ** 3)
```

Output

```
256
```

Exponent order is right to left, so `2 ** 2 ** 3` is `2 ** 8`, or 256.

`**` also goes before a minus sign in front.

Two kinds of bugs

```
1  tricks = 4
2  if tricks >= 3
3      print("Bonus round!")
```

Error

Line 2: Python says: `SyntaxError: expected ':'`

A **SyntaxError** means Python can't read a line. The **Error panel** names that line.

A **logic error** gives a wrong answer with no error message. Compare the output with what it should be.

Exit Ticket

The exit ticket is worth 3 points: 1 for each item.

1. Correct: (C)

```
1  points = 8
2  points =+ 2
3  print(points)
```

Output

```
2
```

Python reads `=+ 2` *as* `= +2`*, so line 2 sets* `points` *to 2 and throws the 8 away.*

2. Correct: (C) `bonus *= 3`

`*=` *multiplies the old value by 3 and stores it.* `**=` *raises it to a power, and* `=*` *stops the program with an error.*

Item 3: written answer

Look for

- `+=` adds to the old value. `=+` sets the variable to the number after it and throws the old value away.

Model response

`points += 5` *adds 5 to the old value of* `points`*. Python reads* `points =+ 5` *as* `points = +5`*, so it sets* `points` *to 5.*