

Import Package - Python Exercise

Below is the image provided along with the recreated question, terminal output, and answer:

The screenshot shows a web browser window with the URL campus.datacamp.com/courses/intro-to-python-for-data-science/chapter-3-functions-and-packages/ex=10. The page displays a Python exercise titled "Import package". The exercise text says: "Let's say you wanted to calculate the circumference and area of a circle. Here's what those formulas look like:" followed by the formulas $C = 2\pi r$ and $A = \pi r^2$. It then explains that instead of typing the number for π , one can use the `math` package. It also explains that `**` is the symbol for exponentiation, giving the example `3**4` which is 3 to the power of 4 and will give 81. The exercise has a "100 XP" badge. Below the instructions are three bullet points: "Import the `math` package.", "Use `math.pi` to calculate the circumference of the circle and store it in `C`.", and "Use `math.pi` to calculate the area of the circle and store it in `A`.". There is a "Take Hint (-30 XP)" button. To the right of the instructions is a code editor for `script.py` with a "Light Mode" toggle. The code in the editor is:

```
1 # Import the math package
2 import
3
4 # Calculate C
5 C = 2 * 0.43 * ____
6
7 # Calculate A
8 A = ____ * 0.43 ** 2
9
10 print('Circumference: ' + str(C))
11 print('Area: ' + str(A))
```

 Below the code editor is an "IPython Shell" with "In [1]:" and a "Run Code" button. The bottom of the screenshot shows a Windows taskbar with the date 11/11/2024 and time 20:02.

Recreated Question and Terminal

Import Package

Let's say you wanted to calculate the circumference and area of a circle. Here's what those formulas look like:

$$C = 2\pi r$$

$$A = \pi r^2$$

Rather than typing the number for π , you can use the `math` package that contains the number.

For reference, `**` is the symbol for exponentiation. For example, `3**4` is 3 to the power of 4 and will give 81.

Instructions:

- Import the math package.
- Use math.pi to calculate the circumference of the circle and store it in C.
- Use math.pi to calculate the area of the circle and store it in A.

Answer

```
# Import the math package
import math

# Calculate C
C = 2 * math.pi * 0.43

# Calculate A
A = math.pi * 0.43 ** 2

print("Circumference: " + str(C))
print("Area: " + str(A))
```

Explanation of the Answer

The math package is imported to access the constant math.pi, representing π . The circumference is calculated using the formula $2\pi r$, where r is 0.43. The area is calculated using πr^2 , with r raised to the power of 2. The results are printed using the print() function.