

## **Exercise 2.2**

(Objectives 2.6,2.7,2.8)

1. After the following statements, what are the values of x and y?

```
x = 15
y = x
x = 22
```

2. *Practice using the Python interpreter as a calculator:*

The volume of a sphere with radius  $r$  is  $\frac{4}{3} \pi r^3$ . What is the volume of a sphere with radius 5?

3. What are the results of the following expressions?

```
42 / 5
42 // 5
42 % 5
40 % 5
5 ** 2
```

4. In mathematics, the Nth harmonic number is defined to be  $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{N}$ . So, the first harmonic number is 1, the second is 1.5, the third is 1.83333... and so on. Assume variable N has been created and assigned a value. Write an expression whose value is the 8th harmonic number.