

## Practice Exercises for Expressions

Solve each of the practice exercises below. Each problem includes three CodeSkulptor links: one for a template that you should use as a starting point for your solution, one to our solution to the exercise, and one to a tool that automatically checks your solution.

1. There are 5280 feet in a mile. Write a Python statement that calculates and prints the number of feet in 13 miles. [Miles to feet template](#) --- [Miles to feet solution](#) --- [Miles to feet \(Checker\)](#)
2. Write a Python statement that calculates and prints the number of seconds in 7 hours, 21 minutes and 37 seconds. [Hours to seconds template](#) --- [Hours to seconds solution](#) --- [Hours to seconds \(Checker\)](#)
3. The perimeter of a rectangle is  $2w+2h$ , where  $w$  and  $h$  are the lengths of its sides. Write a Python statement that calculates and prints the length in inches of the perimeter of a rectangle with sides of length 4 and 7 inches. [Perimeter of rectangle template](#) --- [Perimeter of rectangle solution](#) --- [Perimeter of rectangle \(Checker\)](#)
4. The area of a rectangle is  $wh$ , where  $w$  and  $h$  are the lengths of its sides. Note that the multiplication operation is not shown explicitly in this formula. This is standard practice in mathematics, but not in programming. Write a Python statement that calculates and prints the area in square inches of a rectangle with sides of length 4 and 7 inches. [Area of rectangle template](#) [Area of rectangle solution](#) [Area of rectangle \(Checker\)](#)
5. The circumference of a circle is  $2\pi r$  where  $r$  is the radius of the circle. Write a Python statement that calculates and prints the circumference in inches of a circle whose radius is 8 inches. Assume that the constant  $\pi=3.14$ . [Circumference of circle template](#) --- [Circumference of circle solution](#) --- [Circumference of circle \(Checker\)](#)
6. The area of a circle is  $\pi r^2$  where  $r$  is the radius of the circle. (The raised 2 in the formula is an exponent.) Write a Python statement that calculates and prints the area in square inches of a circle whose radius is 8 inches. Assume that the constant  $\pi=3.14$ . [Area of circle template](#) --- [Area of circle solution](#) --- [Area of circle \(Checker\)](#)
7. Given  $p$  dollars, the future value of this money when compounded yearly at a rate of  $r$  percent interest for  $y$  years is  $p(1+0.01r)^y$ . Write a Python statement that calculates and prints the value of 1000 dollars compounded at 7 percent interest for 10 years. [Future value template](#) --- [Future value solution](#) --- [Future value \(Checker\)](#)

8. Write a single Python statement that combines the three strings "My name is", "Joe" and "Warren" (plus a couple of other small strings) into one larger string "My name is Joe Warren." and prints the result. [Name tag template](#) --- [Name tag solution](#) --- [Name tag \(Checker\)](#)
9. Write a Python expression that combines the string "Joe Warren is 52 years old." from the string "Joe Warren" and the number 52 and then prints the result (Hint: Use the function `str` to convert the number into a string.) [Name and age template](#) --- [Name and age solution](#) --- [Name and age \(Checker\)](#)
10. The distance between two points  $(x_0, y_0)$  and  $(x_1, y_1)$  is  $\sqrt{(x_0 - x_1)^2 + (y_0 - y_1)^2}$ . Write a Python statement that calculates and prints the distance between the points (2,2) and (5,6). [Point distance template](#) --- [Point distance solution](#) --- [Point distance \(Checker\)](#)
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