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 πr^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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