The above two programs output the same result to the console on every execution.

1. What optimizations/improvements does the code snippet on the left demonstrate? Why would it improve performance?

Algebraic Simplification: 8*4 simplified to 32.
Strength Reduction: y / 8 simplified y >> 3.

2. What optimizations/improvements does the code snippet on the right demonstrate? Why would it improve performance?

Function Inlining: foo(y) replaced with y / 8.