

Definition 1. Two piecewise functions are defined below.

$$C(y) = \begin{cases} 8y - 3 & -6 \leq y \leq -3 \\ -(y - 2)^2 + 1 & -3 < y < 4 \\ \frac{y - 5}{y + 1} & 4 \leq y < 11 \end{cases}$$
$$D(x) = \begin{cases} \frac{x - 5}{x - 3} & [-6, 3) \\ \sqrt{x - 3} + 1 & [3, 7) \\ -3|x - 3| - 2 & [7, 11] \end{cases}$$

Exercise 1 Are the domains of C and D equal?

Multiple Choice:

- (a) Yes ✓
(b) No

Exercise 2 Is $F(x) = C(x) \cdot D(x)$ well-defined?

Multiple Choice:

- (a) Yes ✓
(b) No

Exercise 3 Evaluate $F(3) = \boxed{1}$
Enter DNE if the value does not exist.

Exercise 4 Evaluate $F(4) = \boxed{-\frac{2}{5}}$
Enter DNE if the value does not exist.