

## Answer on Question #72658, Chemistry / General Chemistry

### Question:

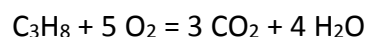
A gas grill burns Propane ( $C_3H_8$ ) in the presence of more than sufficient Oxygen ( $O_2$ ). This reaction produces water vapor and Carbon Dioxide. The temperature and pressure conditions are such that 1 mole of each gas occupies 1 liter of volume.

If 15 liters of Propane are completely consumed, how many grams of Carbon Dioxide are produced?

- A. 15 L  $CO_2$
- B. 45 L  $CO_2$
- C. 660 g  $CO_2$
- D. 1980 g  $CO_2$
- E. None of the Above

### Solution:

Reaction:



Amount of Propane: 15 mol (according to conditions in the task)

Amount of Carbon Dioxide:  $15 \cdot 3 = 45$  mol

Volume of Carbon Dioxide: 45 L (according to conditions in the task)

Mass of Carbon Dioxide:  $45 \cdot 44 = 1980$  g

### Answer:

**D. 1980 g  $CO_2$**

*Also please note, that answer "B" is correct too. But it shows **the volume**.*

Answer provided by <https://www.AssignmentExpert.com>