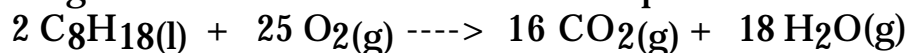


# Ideal Gas Law and Stoichiometry Name \_\_\_\_\_

Use the following reaction to answer the next few questions:



The above reaction is the reaction between gasoline (octane) and oxygen that occurs inside automobile engines.

- 1) If 4.00 moles of gasoline are burned, what volume of oxygen is needed if the pressure is 0.953 atm, and the temperature is 35.0°C?
- 2) How many grams of water would be produced if 20.0 liters of oxygen were burned at a temperature of -10.0°C and a pressure of 1.3 atm?
- 3) If you burned one gallon of gas (C<sub>8</sub>H<sub>18</sub>) (approximately 4000 grams), how many liters of carbon dioxide would be produced at a temperature of 21.0°C and a pressure of 1.00 atm?
- 4) How many liters of oxygen would be needed to produce 45.0 liters of carbon dioxide if the temperature and pressure for both are 0.00°C and 5.02 atm?

Answers: 1) 1330 L	2) 16 g	3) 6760 L	4) 70.3 L
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