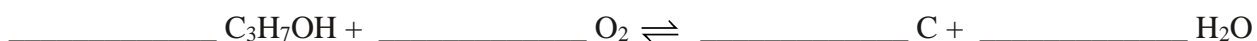


Name \_\_\_\_\_ Date \_\_\_\_\_

## End of Chapter 14 test

*This test and its sample answers have been written by the authors. IB may award marks differently.*

- What are the products of the complete combustion of butane?
  - $\text{H}_2\text{O}$  and  $\text{H}_2$
  - $\text{H}_2\text{O}$  and  $\text{CO}_2$
  - $\text{H}_2$  and  $\text{CO}_2$
  - $\text{H}_2$  and  $\text{C}$
- When writing out the equation for the complete combustion of ethanol, using whole number ratios, how many moles of oxygen are required?
  - 1
  - 2
  - 3
  - 4
- Out of the following, which could be the products for the incomplete combustion reaction of hexane?
  - $\text{H}_2\text{O}$
  - $\text{C}$  and  $\text{CO}$
  - $\text{CO}$
  - $\text{H}_2\text{O}$  and  $\text{CO}$
- The equation for the incomplete combustion of propan-1-ol to form  $\text{C}$  and  $\text{H}_2\text{O}$  is as follows:



When balanced, using whole number ratios, how many moles of  $\text{C}$  are formed?

- 6
- 3
- 2
- 4

- 5 Which of these is a renewable source of energy?
- A oil
  - B natural gas
  - C coal
  - D solar
- 6 What is an advantage of natural gas over coal?
- A lasts longer
  - B produces  $\text{SO}_2$
  - C easier to store
  - D cleaner fuel
- 7 Which of these is a disadvantage of oil?
- A hard to transport
  - B only used as a fuel
  - C limited life span
  - D hard to store
- 8 The enthalpy change of combustion of ethane is  $1561 \text{ kJ mol}^{-1}$ . Calculate the energy released per gram of fuel when ethane is burned.
- A  $-43\,848.5 \text{ kJ g}^{-1}$
  - B  $-111.2 \text{ kJ g}^{-1}$
  - C  $-28.09 \text{ kJ g}^{-1}$
  - D  $-51.9 \text{ kJ g}^{-1}$
- 9 What are the advantages of biofuels?
- A renewable source of energy
  - B do not produce  $\text{CO}_2$
  - C use little land
  - D clean fuel

**10** Which of these are disadvantages of biofuels?

- I Produce  $\text{CO}_2$
- II Require lots of land
- III Produce toxic substances

- A** I
- B** II and III
- C** I and II
- D** I, II and III

**END OF TEST**