SAMPLE PROBLEM B

Name the following alkene.

SOLUTION

1. Identify and name the parent hydrocarbon.

$$\begin{array}{c} CH_3 \\ CH_3-CH-C=CH_2 \\ CH_2-CH_3 \end{array}$$

The parent hydrocarbon has four carbon atoms and one double bond, so it is named *butene*.

2. Identify and name the alkyl groups.

$$\begin{array}{c} \operatorname{CH_3} \\ \operatorname{CH_3-CH-C=CH_2} \\ \operatorname{CH_3-CH_3} \end{array}$$

The alkyl groups are *ethyl* and *methyl*.

Place their names in front of the name of the parent hydrocarbon in alphabetical order.

ethyl methyl butene

3. Number the carbon chain to give the double bond the lowest position.

$$\begin{matrix} \text{CH}_3 \\ \text{CH}_3 - \text{CH} - \text{C} = \text{CH}_2 \\ \text{CH}_2 - \text{CH}_3 \end{matrix}$$

Place the position number of the double bond in front of butene. Place the position numbers of the alkyl groups in front of each alkyl group. Separate the numbers from the name with hyphens. The full name is 2-ethyl-3-methyl-1-butene.

PRACTICE

Answers in Appendix E

Name the following alkenes:

1.
$$CH_3-CH_2-CH_2-CH=CH-CH_3$$

4.
$$CH_3$$

 CH CH_3
 CH_3 $C-CH_2$ $CH=C-CH_3$

extension

Go to **go.hrw.com** for more practice problems that ask you to name alkenes.

