GEOMETRY · CLASSWORK

# Use Diagonals to Identify Rhombuses

SCORE / 25

## 01 Part A · Practice

A parallelogram is a rhombus if its diagonals are perpendicular, or if one diagonal bisects a pair of opposite angles.

**EXAMPLE**

□*ABCD* **has** $m\angle AEB = (6x + 30)°$**. For what** *x* **is it a rhombus?**

1. A rhombus needs perpendicular diagonals.
2. $6x + 30 = 90$, so $x = 10$.

**1** ●○○ In □*KLMN*, $KZ = 12$, $LZ = 9$, $KL = 15$. Are the diagonals perpendicular? Is it a rhombus?

**2** ●○○ In □*KLMN*, $m\angle LKM = (7x - 29)°$ and $m\angle NKM = (6x - 20)°$. For what *x* is it a rhombus?

**3** ●○○ *RSTU* is a parallelogram with diagonals meeting at *Z*, and $m\angle RZS = 70°$. Is it a rhombus?

**4** ●○○ *ABCD* is a parallelogram with diagonals meeting at *O*, and $m\angle BAC = 59°$ and $m\angle DAC = 69°$. Is it a rhombus?

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Preview - the full worksheet and its answer key are at primeworksheet.com