Typeset by Jonathan Rufo Bacolod using LaTeX

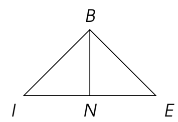
Lesson 3.8.2: Solving Problems Involving Angle Bisectors and Perpendicular Lines

Angle Bisector: a line that divides an angle into two equal parts
Perpendicular Bisector: the line drawn perpendicular through the midpoint of a given line segment

Practice Exercises 3.8.2

Solve the following problems completely.

1. Given: $\overline{BN}$ is an angle bisector of $\angle IBE$
$m\angle IBN = 4x-3, m\angle EBN = 2x+7$
Find: $m\angle IBN$



2. Given: $\overline{UP}$ is an angle bisector of $\angle JUM$
$m\angle JUP = m\angle MUP = 50^\circ$,
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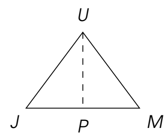
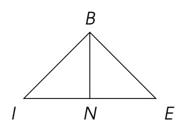
Find: x



3. Given: $\overline{BN}$ is a perpendicular bisector of $\overline{IE}$
$IN = 5x-3, EN = 2x+3$
Find: IE



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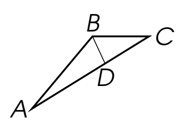

2. Given: $\overline{PQ}$ is an angle bisector of $\angle MPN$
$m\angle MPQ = 3x+9, m\angle NPQ = 5x-5$
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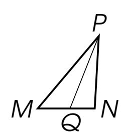

3. Given: $\overline{SR}$ is a perpendicular bisector of $\overline{EQ}$
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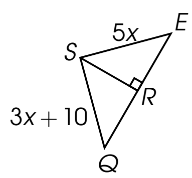

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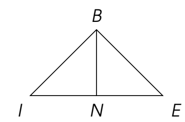

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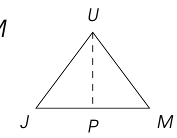

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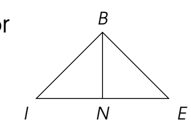

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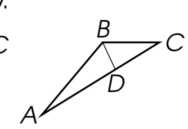

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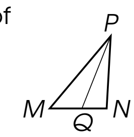

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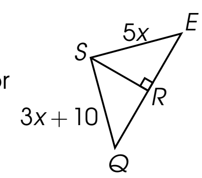

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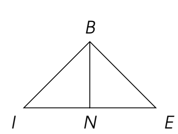

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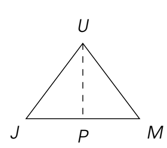

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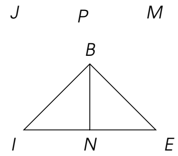

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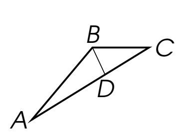

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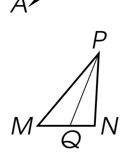

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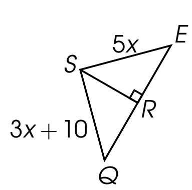

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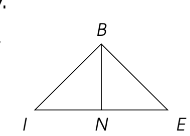

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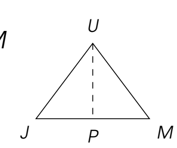

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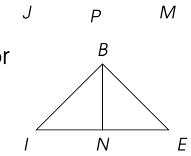

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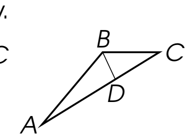

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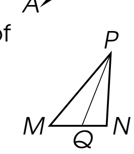

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