Activity 3.8.2: Solving Problems Involving Angle Bisectors and Perpendicular Lines

Total points = 27

```
Answers
1. ∠CBD ≅ ∠ABD ✓
m∠CBD = m∠ABD ✓
3x + 10 = 2x + 30
3x - 2x + 10 - 10 = 2x - 2x + 30 - 10
x = 20 •
m\angle CBD = 3x + 10 \checkmark
m\angle CBD = 3(20) + 10 \checkmark
m\angle CBD = 70^{\circ}
2. ∠MPQ≅∠NPQ v
m \angle MPQ = m \angle NPQ \checkmark
3x + 9 = 5x - 5
3x - 5x + 9 - 9 = 5x - 5x - 5 - 9 \checkmark
\frac{-2x}{-2} = \frac{-14}{-2} \checkmark
x = 7 \checkmark
m \angle MPN = 2(m \angle MPQ) \checkmark
m \angle MPN = 2(3x+9)
m \angle MPN = 2[3(7) + 9] \checkmark
m \angle MPN = 2(30)^{\circ}
m \angle MPN = 60^{\circ}
3. \overline{SQ} \cong \overline{SE} \checkmark
SQ = SE \checkmark
3x + 10 = 5x 	
3x - 5x + 10 - 10 = 5x - 5x - 10 \checkmark
\frac{-2x}{-2} = \frac{-10}{-2} \checkmark
\frac{-2x}{-2} = \frac{1}{x}
SQ = 3x + 10
SQ = 3(5) + 10 \checkmark
SQ = 25 ✓
```

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x = 5 \checkmark
SQ = 3x + 10
SQ = 3(5) + 10 \checkmark
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Jonathan Rufo Bacolod using BTEX Jonathan Rufo Bacolod using BTEX

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Answers

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x = 20  ✓
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m∠CBD = 70°
2. ∠MPQ ≅ ∠NPQ ✓
m \angle MPQ = m \angle NPQ \checkmark
3x + 9 = 5x - 5 \checkmark
3x - 5x + 9 - 9 = 5x - 5x - 5 - 9
\frac{-2x}{3} = \frac{-14}{3}
\frac{-2}{x=7} = \frac{1}{\sqrt{x}}
m \angle MPN = 2(m \angle MPQ) \checkmark
m \angle MPN = 2(3x+9) \checkmark
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SQ = 3(5) + 10 \checkmark
SQ = 25 ✓
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