Standard Addressed by these Number Talks:

**4.MD.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Pose these number sentences to students and ask them to solve them mentally. The student’s role is to demonstrate fluent strategies for solving these problems. The teacher’s role is to pose the problem, give students a few minutes to solve the problems and then lead a discussion about how they solved the problems. Teachers will need to write down students’ thinking using number sentences that will show how students solved the problems. You need not pose all at once, but instead do a few each week during the unit (posing one problem in one setting, or a string of problems that build on each other in one setting or over the course of a week). Conversations may range from 10-20 minutes in length. See the article *Number Talks Build Numerical Reasoning (***October 2011 •** teaching children mathematics) for more information.

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| Standard | Number Talk Problem Sets | Rationale |
| **4.MD.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. **Solve addition** and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. | 45 + 4545 + 9090 + 90180 + 60180 + 90270 + 90 | Having students work with adding these common angle measures will increase their fluency and will support their understanding of angle measures as additive. |
| **4.MD.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. **Solve** addition and **subtraction problems** to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. | 90 – 45180 – 45180 – 90270 – 90360 – 90360 – 180360 – 270 | Having students work with subtracting these common angle measures will increase their fluency and will support their understanding of angle measures as additive. |