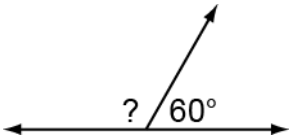
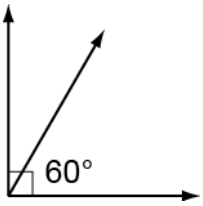
Content Standard	***MAFS.4.MD*** *Measurement and Data* ***MAFS.4.MD.3*** *Geometric measurement: understand concepts of angle and measure angles.* **MAFS.4.MD.3.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum 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.
Assessment Limits	Angle sums are less than or equal to 360°.
Calculator	No
Acceptable Response Mechanisms	Equation Response Matching Item Response Multiple Choice Response Multi-Select Response
Context	Allowable

Example	
Context	Solve problems when an angle sum or angle measures are given. Angles composed of three smaller angles.
Context easier	Limit to one angle composed of two smaller angles.
Context more difficult	Increase number of angles (four or more). Angle sum determined from given parameters.

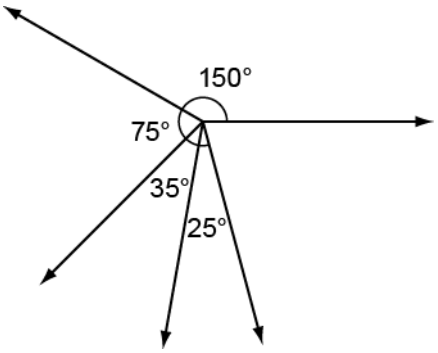
Sample Item Stem	Response Mechanism	Notes, Comments
A diagram of 180° is shown.  What is the measure of the unknown angle?	Equation Response	
A diagram is shown.  What is the sum of the angles?	Equation Response	

<table>
<tr>
<td>Kyle is adding angles to create other angles.

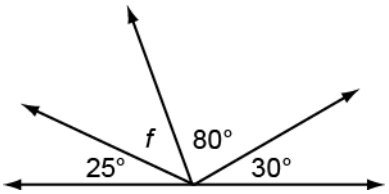
Select the angles Kyle can use to create a 128° angle.

Select the angles that Kyle can use to create a 55° angle.

<table>
<tr><td></td><td>64°</td><td>34°</td><td>30°</td><td>25°</td></tr>
<tr><td>128°</td><td></td><td></td><td></td><td></td></tr>
<tr><td>55°</td><td></td><td></td><td></td><td></td></tr>
</table>
</td>
<td>Matching Response</td>
<td></td>
</tr>
<tr>
<td>A diagram is shown.

What is the angle sum?</td>
<td>Equation Response</td>
<td></td>
</tr>
<tr>
<td>A diagram is shown.

A. Create an equation to show one way to find the measure of angle f.

B. What is the measure of angle f?</td>
<td>Equation Response</td>
<td></td>
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