

Name: \_\_\_\_\_

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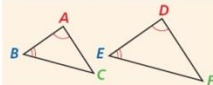

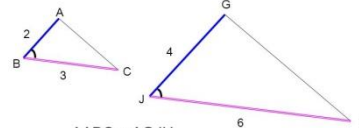

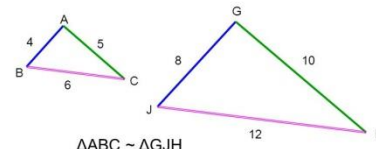

CC GEOMETRY

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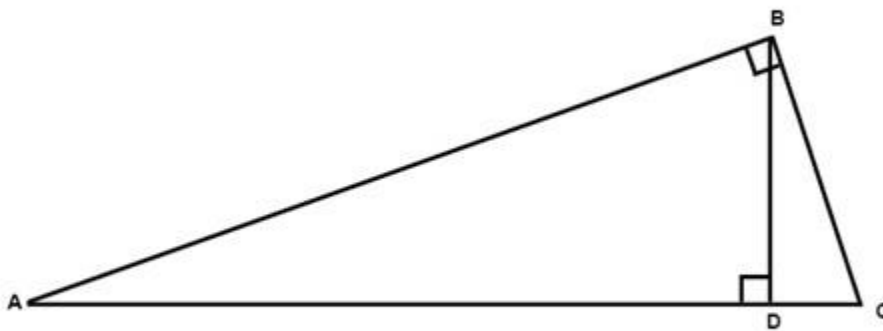
**MINI-LESSON #7: SIMILARITY**

**TRIANGLE SIMILARITY**

- When two triangles are similar they are the same \_\_\_\_\_ but different \_\_\_\_\_.
- Angles of similar triangles are \_\_\_\_\_.
- \*Sides of similar triangles are \_\_\_\_\_. \* (**NOT CONGRUENT!**)
- Sides **AND PERIMETERS** of similar triangles will share the same \_\_\_\_\_.
- Scale factors when a triangle goes from small to big are \_\_\_\_\_.
- Scale factors when a triangle goes from big to small are \_\_\_\_\_.
- You can prove triangles are similar by proving angles are congruent or if the sides share the same ratio. These are our **similarity postulates** listed below:

<b>AA<math>\cong</math></b>	<b>SAS<math>\sim</math></b>	<b>SSS<math>\sim</math></b>
<p style="text-align: center;"><b>Angle-Angle (AA) Similarity Postulate</b></p> <ul style="list-style-type: none"> <li>• If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar.</li> </ul> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center; font-size: small; margin: 0;"><b>HYPOTHESIS</b></p>  </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center; font-size: small; margin: 0;"><b>CONCLUSION</b></p> <p style="text-align: center; margin: 0;"><math>\triangle ABC \sim \triangle DEF</math></p> </div> </div> <div style="text-align: center; margin-top: 10px;">  </div>	<p style="text-align: center;"><b>Side-Angle-Side (SAS) Similarity Theorem</b></p> <ul style="list-style-type: none"> <li>• If an angle of one triangle is congruent to an angle of a second triangle and the sides including the two angles are proportional, then the triangles are similar.</li> </ul> <div style="text-align: center; margin-top: 10px;">  <p style="text-align: center; margin-top: 5px;"><math>\triangle ABC \sim \triangle GJH</math></p> </div> <div style="text-align: center; margin-top: 10px;">  </div>	<p style="text-align: center;"><b>Side-Side-Side (SSS) Similarity Theorem</b></p> <ul style="list-style-type: none"> <li>• If the corresponding sides of two triangles are proportional, then the triangles are similar.</li> </ul> <div style="text-align: center; margin-top: 10px;">  <p style="text-align: center; margin-top: 5px;"><math>\triangle ABC \sim \triangle GJH</math></p> </div> <div style="text-align: center; margin-top: 10px;">  </div>

**RIGHT TRIANGLE SIMILARITY**

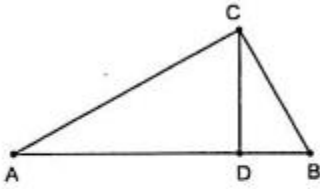


<b>HLLS</b>	<b>SAAS</b>

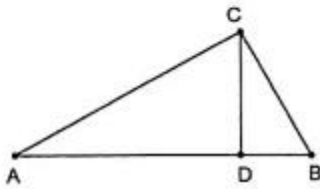
PRACTICE WITH HLLS AND SAAS

Right triangle  $ABC$  with altitude  $\overline{CD}$ :

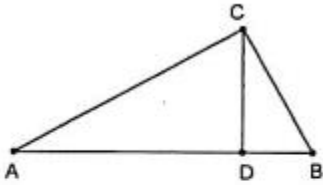
1. If  $AD = 3$ ,  $CD = 6$ , find  $DB$



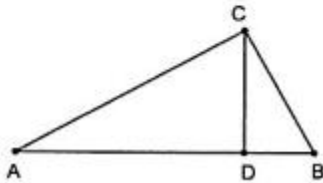
2. If  $AC = 10$ ,  $AD = 5$ , find  $AB$ .



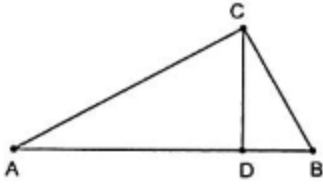
3. If  $AC = 6$ ,  $AB = 9$ , find  $AD$ .



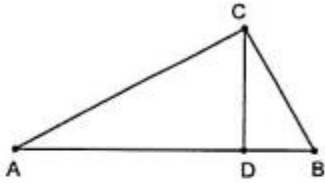
4. If  $DB = 4$ ,  $BC = 10$ , find  $AB$ .



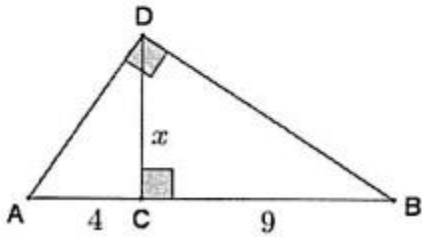
5. If  $AD = 3$ ,  $DB = 27$ , find  $CD$ .



6. If  $AD = 2$ ,  $AB = 18$ , find  $BC$ .



7. Solve for  $x$ .



8. Find the length of  $LM$ .

