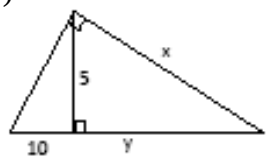
First name: _____ Last name: _____ Student ID: _____

Geometry 2 Homework

1. Solve for *x* and *y*

1)



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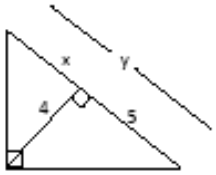

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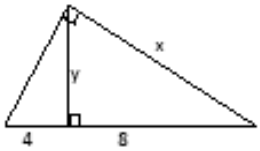

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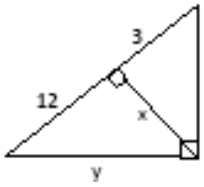

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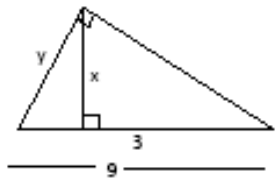

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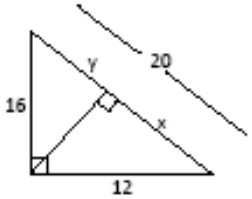

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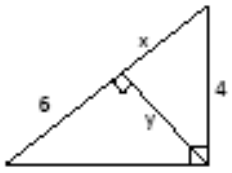

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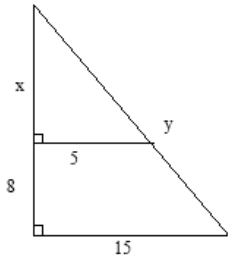

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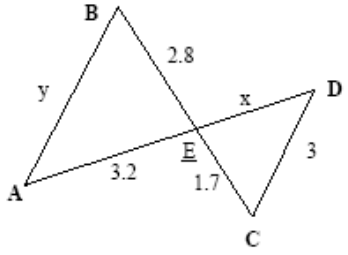
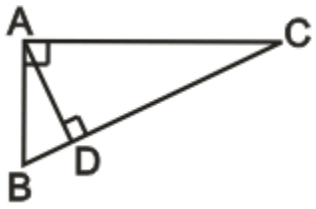
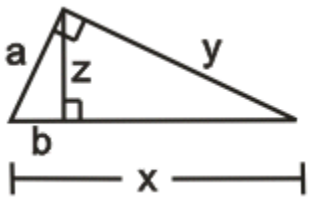


2. In ΔABC, BD = 2 and BC = 8. Find AD.

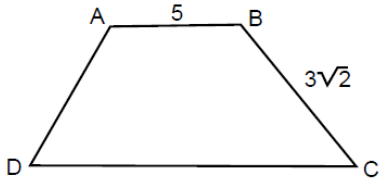


3. If a = 6 and b = 3, find the values of x, y, and z.



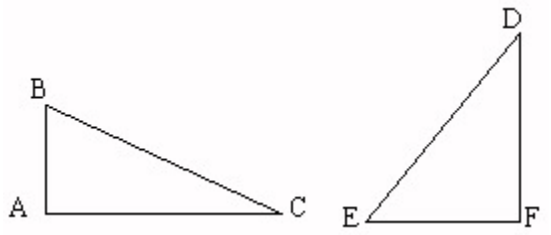
4. A person is standing 40 ft away from a street light that is 30 ft tall. How tall is he if his shadow is 10 ft long?

5. Figure $ABCD$ is a trapezoid with $AB||DC$, $AB = 5$, $BC = 3\sqrt{2}$, $\angle BCD = 45°$ and $\angle CDA = 60°$. What is the length of DC?

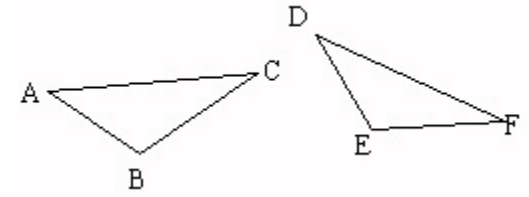


6. In ΔABC, $\overline{CD}$ is the altitude to side $\overline{AB}$. If AD = 13 and DB = 7, find BC that will make ΔABC a right triangle.

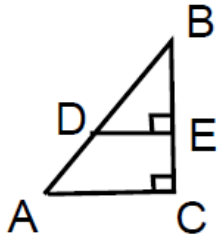
7. ∠B ≅ ∠E, ∠A ≅ ∠F, AC: FD = 6:12, and ED = 156, what is the length of BC?



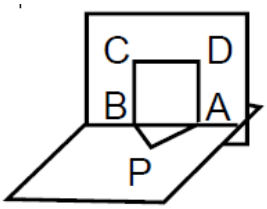
8. ∠C ≅ ∠F, ∠A ≅ ∠D. The perimeter of smaller triangle ABC is 56. The lengths of two corresponding sides on the triangles are 23 and 138. What is the perimeter of DEF?



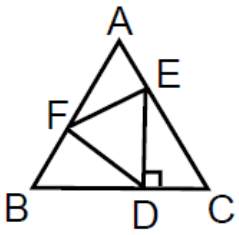
9. In the triangle ABC, $\angle C = 90°$. $AC = 6$ and $BC = 8$. Points D and E are on AB and BC, respectively, and $\angle BED = 90°$. If $DE = 4$, then what is value of BD?



10. Triangle PAB and square $ABCD$ are in perpendicular planes. Given that $PA = 3$, $PB = 4$, and $AB = 5$, what is PD?



11. Equilateral triangle DEF is inscribed in equilateral triangle ABC as shown with $DE \perp BC$. What is the ratio of the area of ΔDEF to the area of ΔABC?



12. In ΔABC, $AB = 5$, $BC = 7$, $AC = 9$ and D is on AC with $BD = 5$. Find the ratio AD: DC.