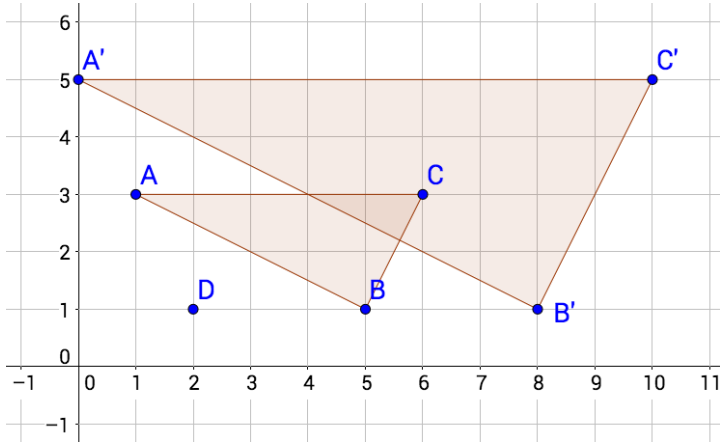


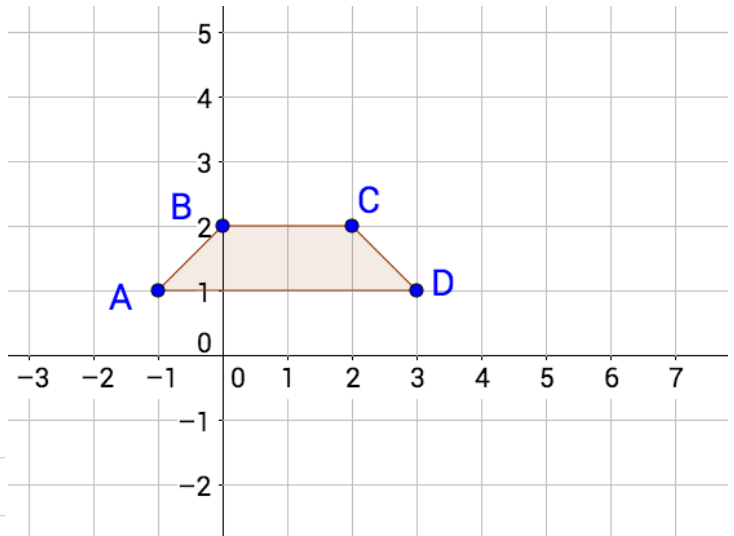
Similarity and Trig Unit Review

SRT-1: Dilation, Similar Figures, Triangle Sim.

1. Isosceles trapezoid ABCD is translated by rule $(x, y) \rightarrow (x + 1, y - 1)$. It then undergoes a dilation centered at the origin with scale factor 1.5. Draw the resulting image.
2. $\triangle ABC$ is dilated about point D to create $\triangle A'B'C'$. Determine the scale factor of dilation.



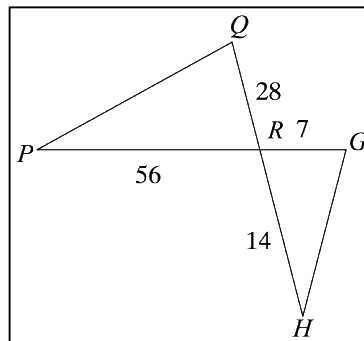
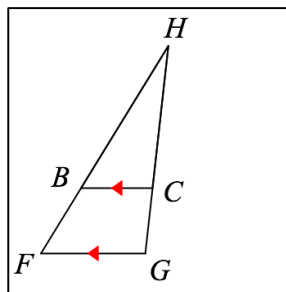
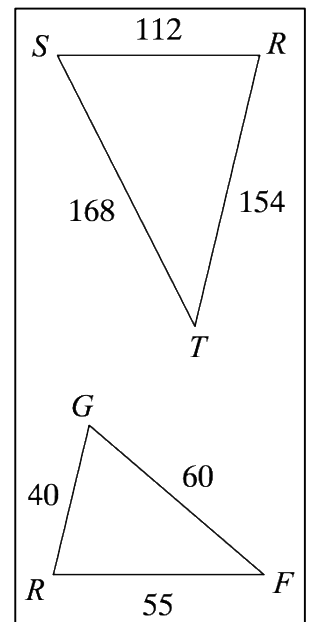
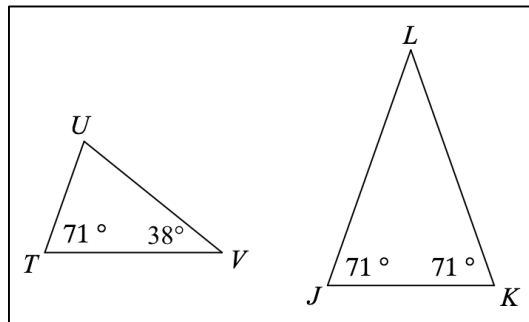
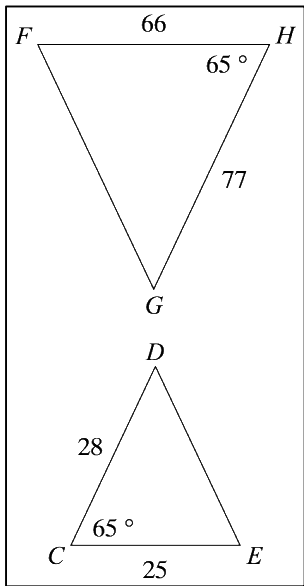
Practice Assessment



3. A rectangle is dilated using graphics software such that its area is 9 times the original. What was the scale factor of dilation?

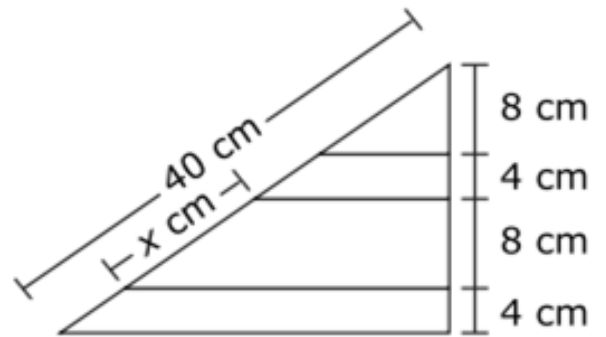
4. Given $\triangle PEK \sim \triangle SHG$, $PE = 12$, $HG = 9$, and $HS = 4$. What is the length of KE ?

5. Are the triangles in each pair similar? If so, what criteria allow you to know?



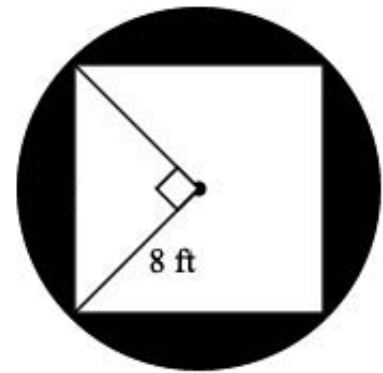
SRT-2: Triangle Proportions, Applying Similarity, Pythagorean Theorem

6. The 3 line segments spanning the triangle are parallel to the base. Find the value of x to the nearest hundredth.



7. A 5'3" woman is standing 12'6" from the base of a lamp post. Her shadow is 8 feet long. To the nearest hundredth of a foot, how tall is the lamp post?

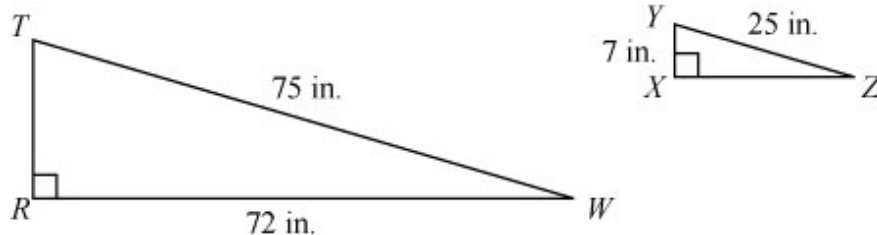
8. A square is inscribed in a circle of radius 8. Find the area of the square.



SRT-3: Trigonometry

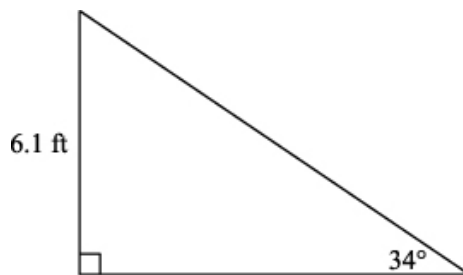
9. A right triangle has legs of length 6 and 8. Find the cosine of the smallest angle.

10. $\triangle RTW \sim \triangle XYZ$. Find $\tan Z$.



11. A and B are complementary angles. $\sin A = \frac{5}{13}$ and $\sin B = \frac{12}{13}$. Find $\tan B$.

12. Find the perimeter of this triangle to the nearest tenth.



13. A pilot flying an airplane at an altitude of 10,000 feet above sea level spots an unfamiliar island in the distance below. The angle of depression down to the island is 12° . When measured along the sea to the nearest foot, how far is the island from the plane's position?