

Applied Geometry – Semester 2 Review

Semester 2 Review Topics:

- Proportions
- Scale drawings
- Similar figures
- Parallel Lines & Proportional Parts
- Pythagorean Theorem
- Trigonometry – SOH CAH TOA
- Area
 - Triangle
 - Parallelogram
 - Trapezoid
 - Kite
 - Circle
 - Sector
 - Regular Polygon
 - Composite Shapes
- Surface Area & Volume
 - Prism
 - Pyramid
 - Cylinder
 - Cone
- Translation
- Reflection
- Rotation
- Dilation

Applied Geometry – Semester 2 Review

Answer each question below to the best of your ability. Each question has only 1 correct answer. Write your answer in the box to the left of the question.

Solve each proportion.

1) $\frac{b}{6} = \frac{4}{8}$

2) $\frac{3}{r} = \frac{4}{7}$

3) $\frac{7}{2} = \frac{8}{m-8}$

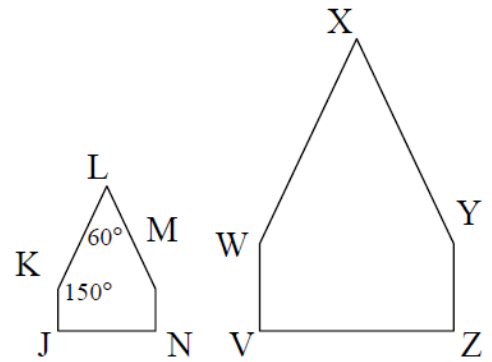
4) $\frac{6}{r+1} = \frac{8}{3}$

- 5) On a scale drawing, the scale is $\frac{1}{4}$ inch = 1 foot. What are the dimensions on the scale drawing for a room that is 15 feet by 16 feet?

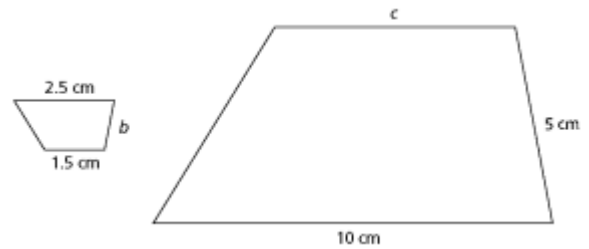
- 6) Tom has a scale model of his car. The scale factor is 1 : 12. If the actual car has 16-inch wheels, what size are the wheels on the scale model?



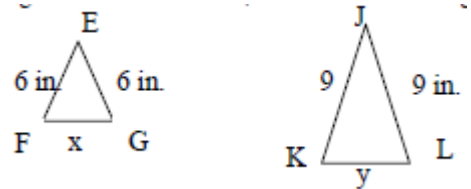
- 7) Pentagon JKLMN is similar to pentagon VWXYZ. What is the measure of angle W?



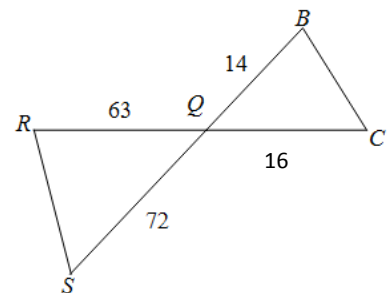
- 8) The trapezoids shown below are similar. Find the value of b.



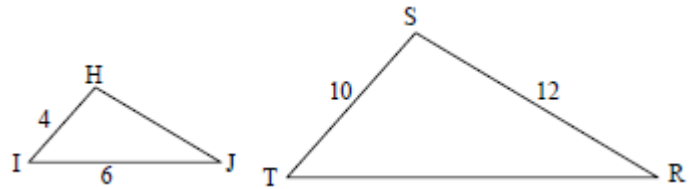
- 9) Triangle EFG is similar to triangle JKL. If $x = 2$, then what does y equal?



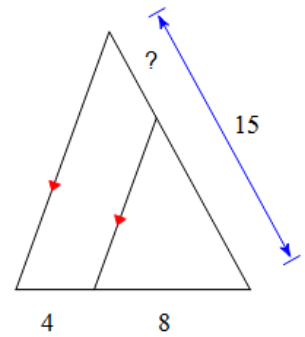
- 10) The triangles shown below are similar. What is the ratio of the side lengths?



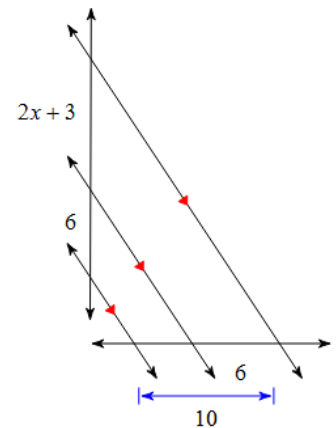
11) Triangle HIJ is similar to triangle STR. What is the perimeter of triangle STR?



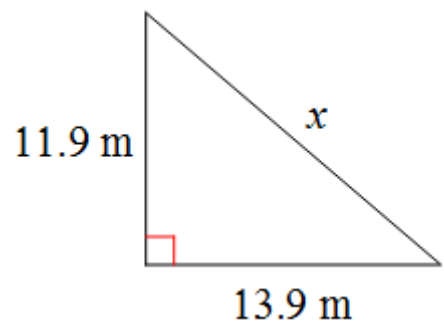
12) The one side of the smaller triangle is parallel to the corresponding side of the larger triangle. If these two triangles are similar, find the indicated value.



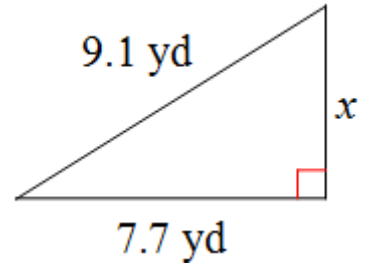
13) Given the three parallel lines shown in the figure, what is the value of x ?



14) Find the missing side of the triangle shown below. Round your answer to the nearest tenth.

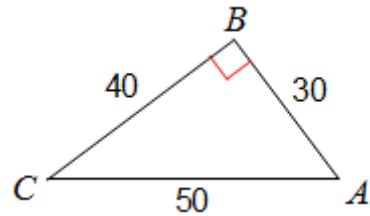


15) Find the missing side of the triangle shown below. Round your answer to the nearest tenth.

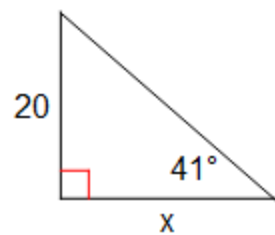


16) How high up on the wall will a 20-foot ladder reach if the bottom of the ladder is placed 5 feet from the wall?

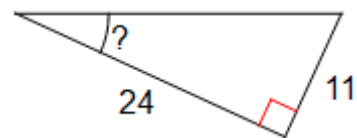
17) What is value of $\sin A$ in the given triangle?



18) Use trigonometry to find the missing side. Round your answer to the nearest tenth.



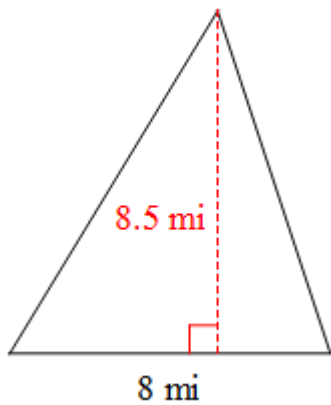
19) Find the measure of the indicated angle. Round your answer to the nearest whole degree.



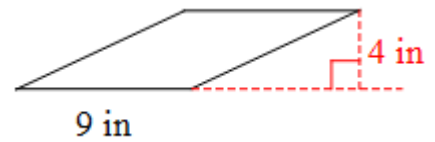
- 20) To find the height of a pole, the surveyor moves 140 feet away from the base. Then, she measures the angle of elevation from her feet to the top of the pole to be 44° . To the nearest foot, what is the height of the pole?

For questions #21-26, find the area of the shape shown.

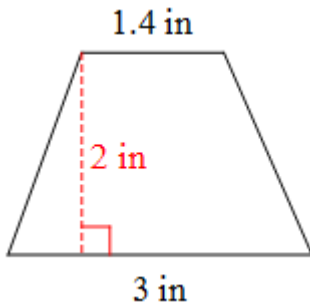
21)



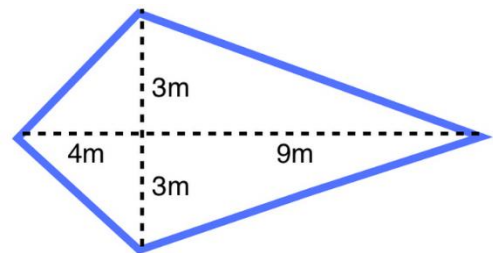
22)



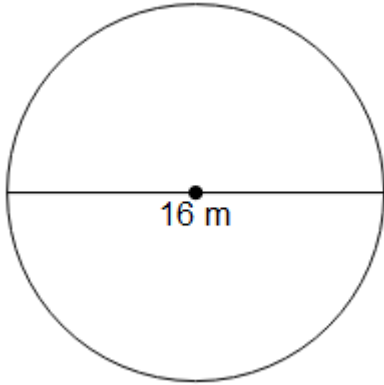
23)



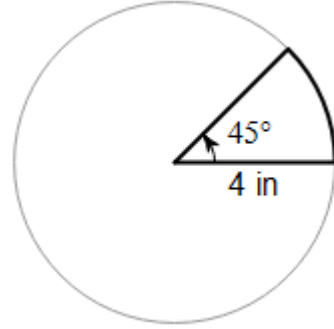
24)



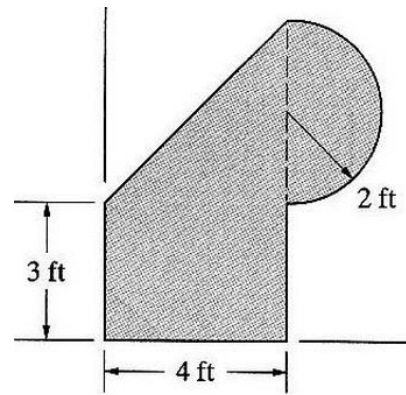
25)



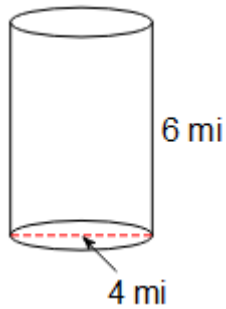
26)



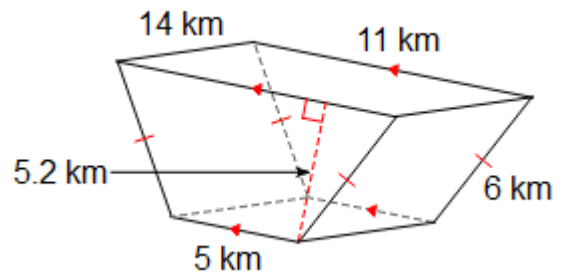
27) Find the area of the composite shape.



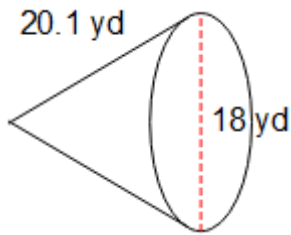
28) Find the surface area of the cylinder.



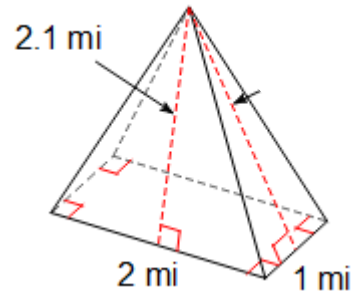
29) Find the surface area of the prism.



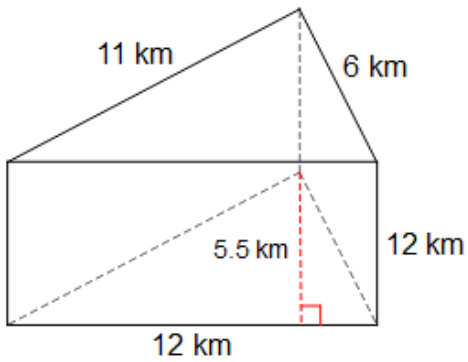
30) Find the surface area of the cone.



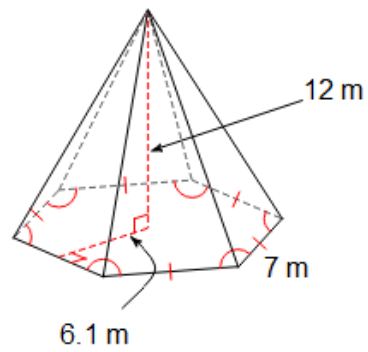
31) Find the surface area of the pyramid.



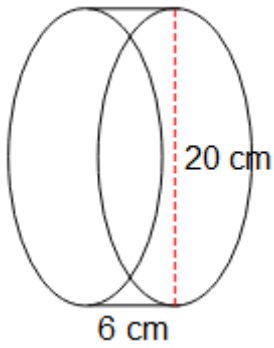
32) Find the volume of the prism.



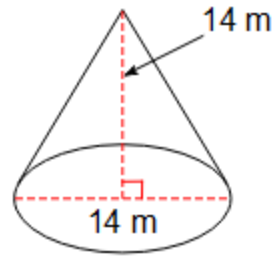
33) Find the volume of the pyramid.



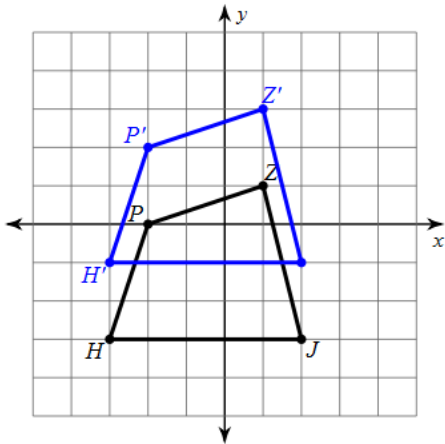
34) Find the volume of the cylinder.



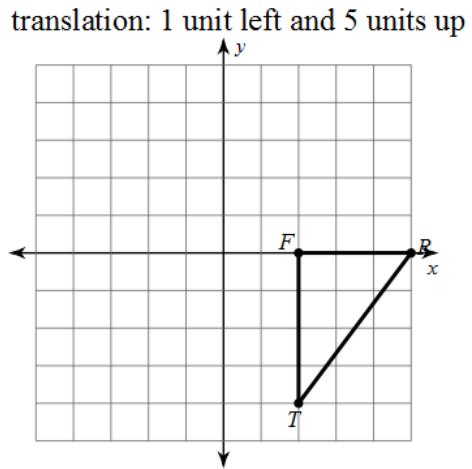
35) Find the volume of the cone.



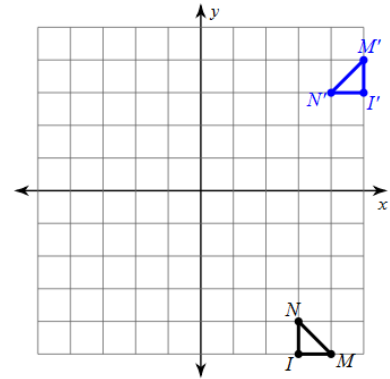
36) Write the rule for the transformation.



37) Give the coordinates for the transformation.

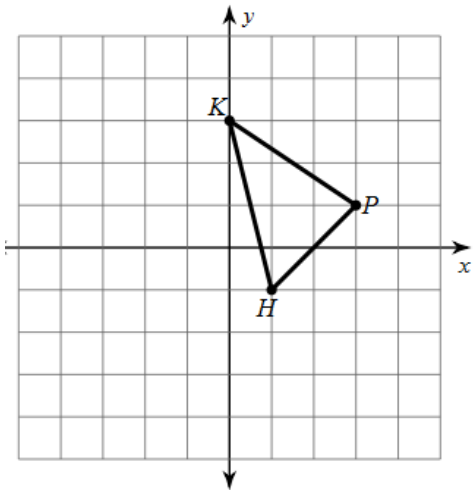


38) Write the rule for the transformation shown.

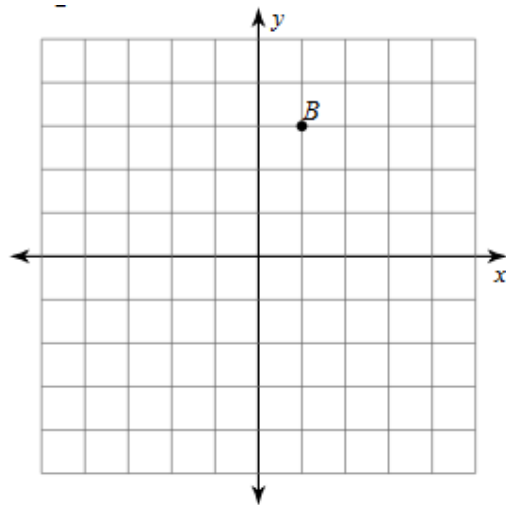


39) Graph the reflection.

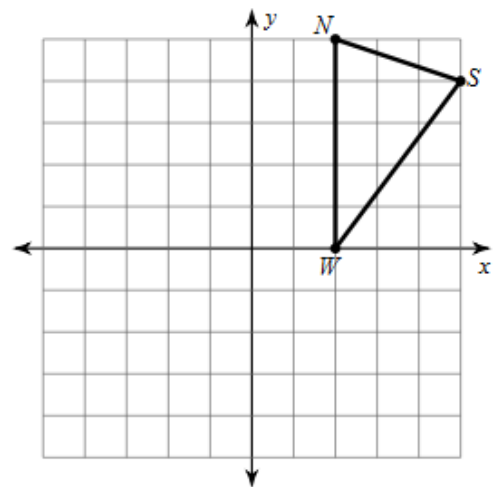
reflection across $x = 2$



40) Rotate point B 90° counterclockwise about the origin. What are the coordinates of B'?

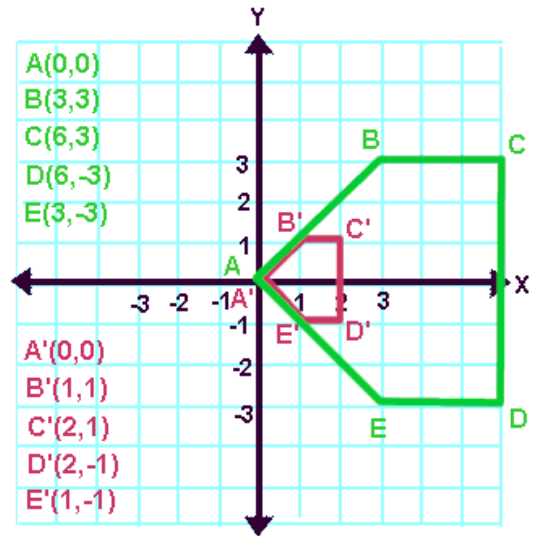


41) Reflect triangle NSW across the line $x = 3$. What are the coordinates of N'S'W'?



42) What type of dilation occurs with a scale factor of $\frac{4}{5}$?

43) If pentagon A'B'C'D'E' is the image of pentagon ABCDE, what is the scale factor of the dilation?



44) Sort the types of transformations into whether the image is congruent to or similar to the preimage.

Translation Rotation Dilation Reflection

Congruent	Similar