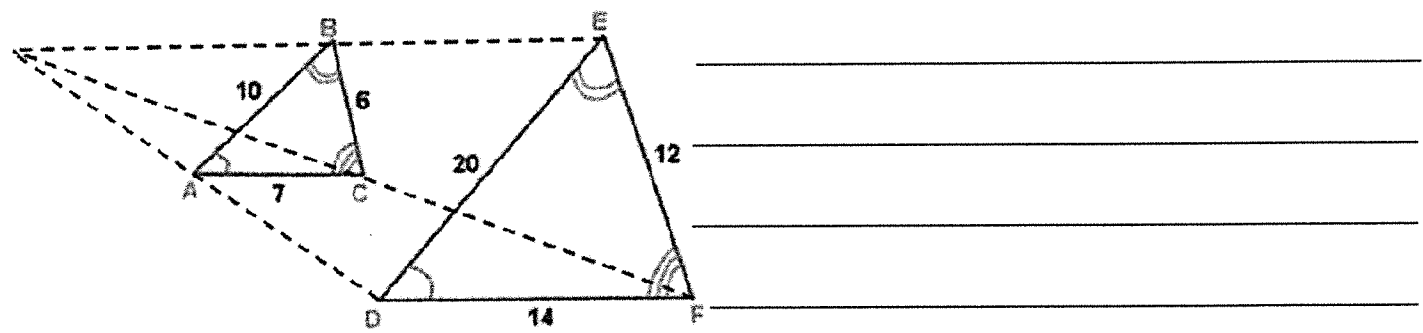


1. Is triangle ABC similar to triangle DEF? Explain your reasoning using both your knowledge of sides and angles. Show your work.



2. For each statement, decide whether you agree or disagree with it and explain your reasoning.

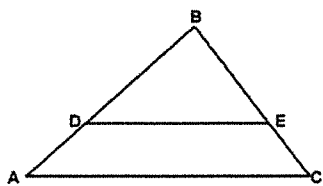
Statement	True	False	Explain your reasoning
All rectangles are similar.			
All triangles are similar.			
When I enlarge a geometric figure by a ratio of 2, both the sides and angles double in size.			
All Circles are similar			
All Squares are similar			

3. A girl is 4ft 6in tall and casts a shadow that is 8 ft. 6 in. long. The end of her shadow coincides with the end of the shadow cast by a building 140 ft from the girl. Find the height of the building. Explain or show how you found your answer. DRAW A PICTURE. Round your answer to the nearest tenth of a foot.

4. A family picture is 4”(width) by 6”(length). You want to enlarge the picture so that the new length is 14”. What will the new width be of the enlarged photo? Draw a picture. Show your work. Round your answer to the nearest tenth of an inch.

5. A flagpole casts a 10 foot shadow. At the same time a 15 ft tree casts a 28 foot shadow. How tall is the pole? Draw a picture. Show your work. Round your answer to the nearest tenth of a foot.

8. Complete the following proof given the picture below.



Given:  $DE \parallel AC$   
Prove:  $\triangle BAC \sim \triangle BDE$

Statements	Justifications
1.	1.
2. $\angle B \cong \angle B$	2.
3.	3. Corresponding Angles are Congruent
4.	4.

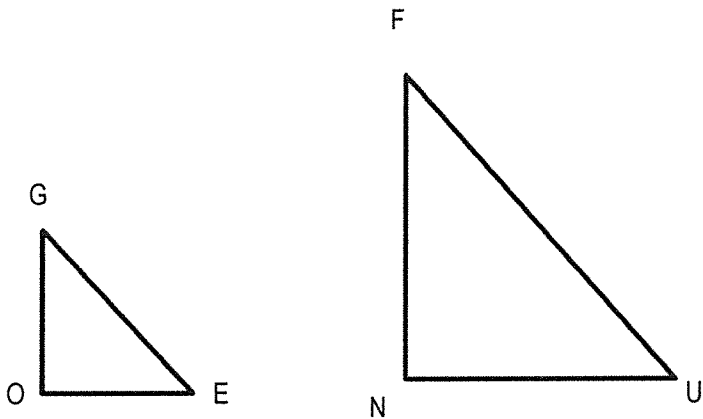
9. A cabinet has a diagonal length of 34.5 inches and a width of 26 inches. You only have room for a 20 inch tall cabinet. Will this cabinet fit? How do you know?

Picture	Work	Answer

10. A flag pole is 32 feet tall. You are standing 15 feet away from the flag pole. What is your angle of elevation to see the top of the flag pole?

Picture	Work	Answer

14.  $\triangle GEO \sim \triangle FUN$ . The  $\sin G = \frac{7}{25}$ . Angle O and angle N are right angles. Determine which of the ratios below are the same and explain your reasoning. Hint: Find the missing side!



Ratio	Same? Y or N	Explanation
Sin G & Cos E		
Tan E & Tan G		
Sin U & Sin G		
Sin U & Cos F		
Cos G & Tan U		
Cos G & Cos F		
Sin G & Cos U		
Tan F & Tan G		