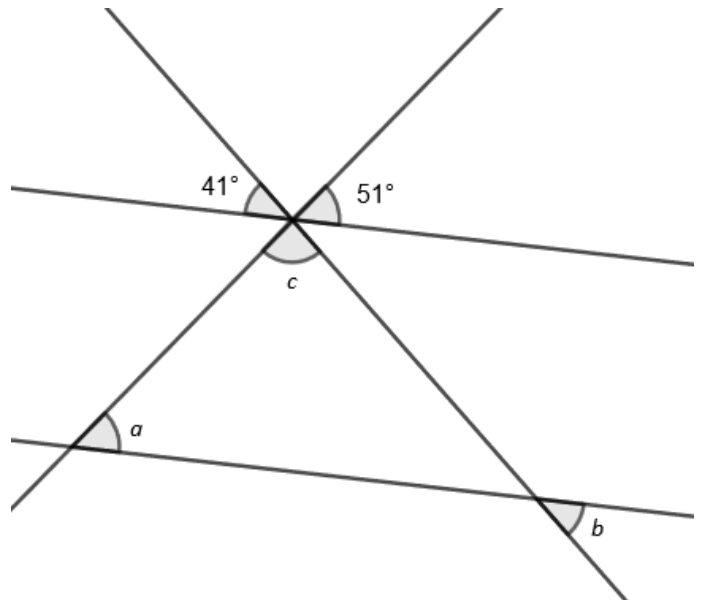
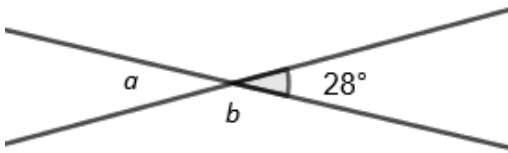


Practice Test- Angle Theorems, Similar Triangle and Right-Angled Trigonometry

1. Determine the unknown angles. State the reasons behind your answers.

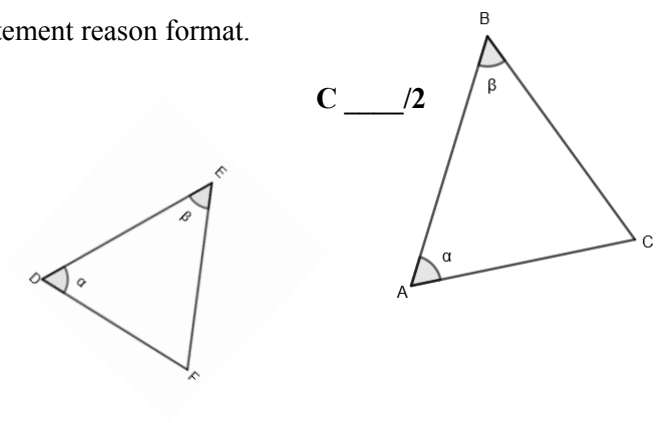
a)



2. i. Describe the “C-pattern” for angle theorems (a picture will help!)

ii. Describe the “Z-pattern” for angle theorems (a picture will help!)

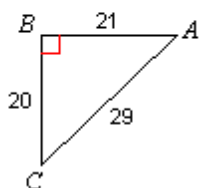
3. a. Are the given two triangles similar? Justify using statement reason format.



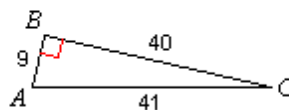
3. b. What do you know about the corresponding sides and angles of similar triangles?

Find the value of each trigonometric ratio.

4) $\cos C$

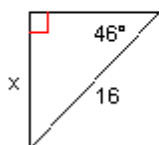


5) $\tan C$

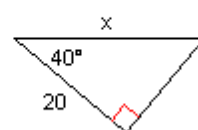


Find the missing side. Round to the nearest tenth.

6)

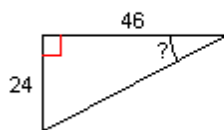


7)

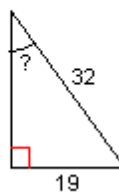


Find the measure of the indicated angle to the nearest degree.

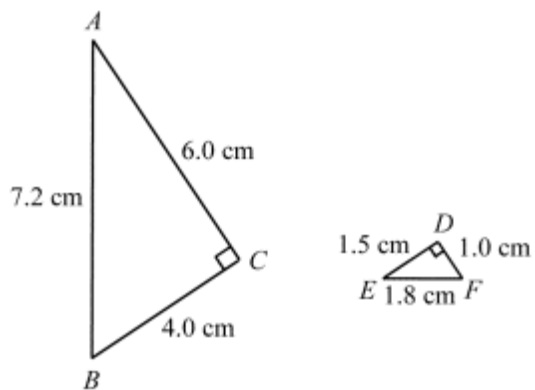
8)



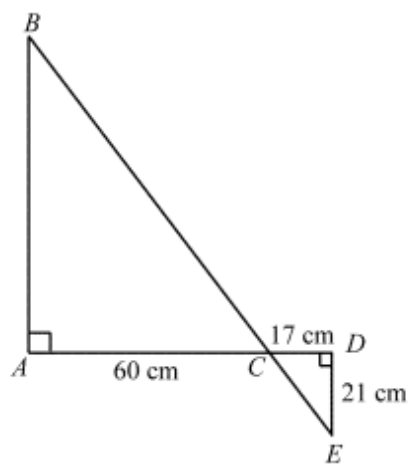
9)



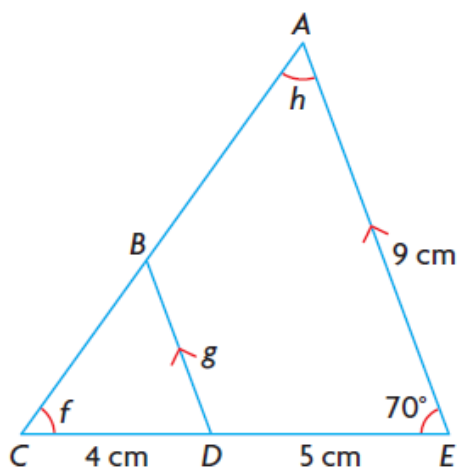
10. Prove that $\triangle ABC \sim \triangle EFD$. Remember the use of proper statement and reason for your proof.



11. Determine the length of AB. Justify how you arrived at the solution with proper reasoning.



12. Determine f , g , and h (hint: Find g first and what type of triangle is this?)



13. A frog is hungry. He sees a fly and starts the calculations. He realizes that the fly is 3cm directly in front of him and 2 cm above him. What angle of elevation must his tongue leave his mouth to catch the fly? (assuming that the fly doesn't move while he pulls out his calculator and works out the angle....)

14. A tow truck raises the front end of a car 0.85m above the ground. The car is 3.85m long. What angle does the car make with the ground?

15. A mountain road rises with a constant 17° incline. Calculate the increase in altitude of a cyclist who rides 4 km up the road.

16. A damsel is in distress and is being held captive in a tower. Her knight in shining armor is on the ground below with a ladder. When the knight stands 15 feet from the base of the tower and looks up at his precious damsel, the angle of elevation to her window is 60 degrees. How long does the ladder have to be? Draw a picture.