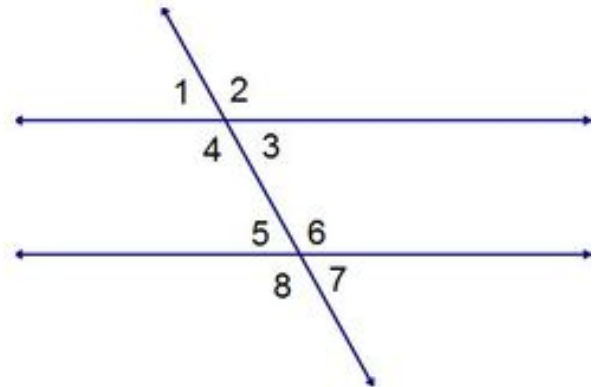


## Plane Trigonometry Exam One Review

1. The angles  $(6x + 4)^\circ$  and  $(3x - 4)^\circ$  are complementary. Find the measure of the angles.
2. Find the angle that is supplementary to  $56^\circ 25' 44''$ . Express your answer in decimal degrees, and round to four decimal places.
3. Find an angle between  $0^\circ$  and  $360^\circ$  that is coterminal to  $853^\circ$ .
4. In the figure to the right, the measure of angle 1 is  $50^\circ$ . Find the measures of the other seven angles.



5. Triangle  $ABC$  is similar to triangle  $DEF$ ,  $AB = 10$ ,  $BC = 15$ , and  $AC = 20$ . If  $DE = 25$ , find  $DF$  and  $EF$ .

6. Find all six trigonometric functions of the angle  $150^\circ$  using exact values without a calculator.

7. Find all six trigonometric functions of the angle  $-135^\circ$  using exact values without a calculator.

8. Find all six trigonometric functions of the angle  $90^\circ$  using exact values without a calculator.

9. If  $\theta$  is in quadrant IV, and  $\cos(\theta) = \frac{5}{9}$ , find the other five trigonometric functions of  $\theta$ .

10. In triangle  $ABC$ , angle  $C$  is  $90^\circ$ , angle  $A$  is  $40^\circ$ , and  $b = 20$  ft. Solve the triangle.

11. Joe is standing 100 ft from the base of a skyscraper, and while looking at the top of the skyscraper, his line of sight has an angle of elevation of  $72^\circ$ . How tall is the skyscraper? (You can ignore Joe's height in this problem).