Simplify all answers and show your work!

1. There are ______ degrees or ______ radians in the measure of a circle.
2. The sum of all three angles of a triangle is ______ degrees.
3. The sum of two supplementary angles is ______ degrees.
4. The sum of two complementary angles is ______ degrees.
5. If two figures are similar, they are the same ______.
6. For corresponding angles or alternate interior angles to be congruent a transversal must cross what kind of lines? ________________________
7. _____ radians = 180°.
8. Convert into radians: 65°
9. Convert into degrees: \( \frac{4\pi}{9} \) radians
10. Write in scientific notation: 0.00592 meters
11. a. Write in engineering notation: 72,000 watts  b. Write part a) using metric prefixes.
12. In a circle with a 2-m radius, how long is an arc associated with a central angle of 4 radians?
13. Find the measure of the central angle having an arc length of \( \frac{3\pi}{5} \) cm and a radius of 5 cm.

Use the figure to the right to answer the following questions.
14. Give an example of a right triangle.
15. Give an example of a pair of supplementary angles.
16. If \( \angle ABD = 31° \), then find the following
    a) \( \angle BEA = \) __________  b) \( \angle AEF = \) __________
17. If \( \angle BDC = 80° \), then find the following
    a) \( \angle ADE = \) __________  b) \( \angle ADB = \) __________  c) \( \angle CBE = \) __________
Given the figure to the right and that \( \overline{AB} \parallel \overline{CD} \), answer the following questions.

19. Give an example of a pair of corresponding angles.

20. Why is \( \angle e \equiv \angle l \)?

21. List three angles that are congruent to \( \angle f \).

22. Classify the following triangles by angle (acute, right, obtuse) and by side (scalene, isosceles, equilateral)

23. Given \( \angle ABC \) and \( \angle ECF \) are 90° angles, \( \angle ADB \equiv \angle EFC \), and \( \overline{AB} \equiv \overline{EC} \), determine which triangles are congruent and by what congruence theorem are they congruent.

25. If \( \angle VPJ = 2x \) and \( \angle VPC = 4x \), find the following:

   \[ x = \_ \_ \_ \_ \_ \]

   \[ m\angle CPX = \_ \_ \_ \_ \_ \]