I.   Fill in the blank with the best answer. (2 points each)

1. _____ Assumed to be true; cannot be proven; an observation.

2. _____ A figure which has been enlarged or reduced without changing its shape.

3. _____ A figure which has been flipped in a line to form a mirror image.

4. _____ A function defined as the opposite over the adjacent side.

5. _____ A function defined as the hypotenuse over the adjacent side.

6. _____ Two geometric figures whose corresponding angles are congruent and whose corresponding sides have the same ratio.
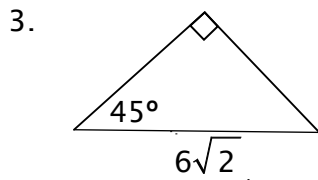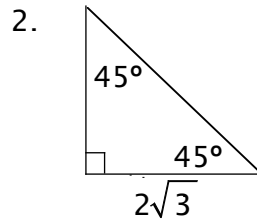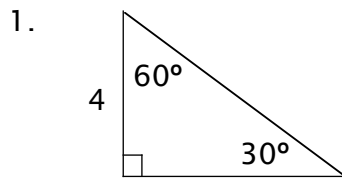
7. _____ The name of a three-dimensional circle.

8. _____ The trigonometric function that is the reciprocal of the tangent.

II. Translate the figure over one and down two. (4 points)
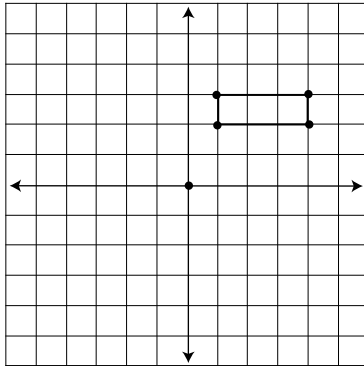
III. Find the measures of the unmarked sides of these right triangles. (5 points each)

1.

2.

3.

4.
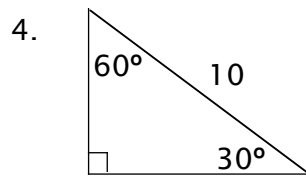
IV. Find the values of the following trigonometric functions for the triangle. (3 points each)
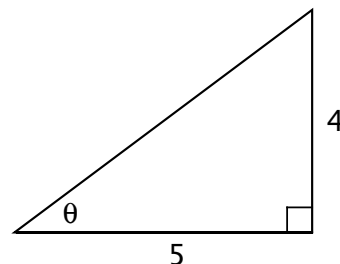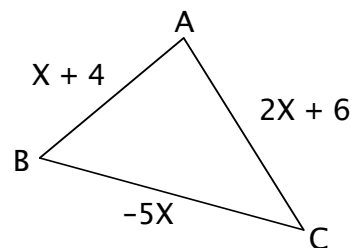
1. sin θ
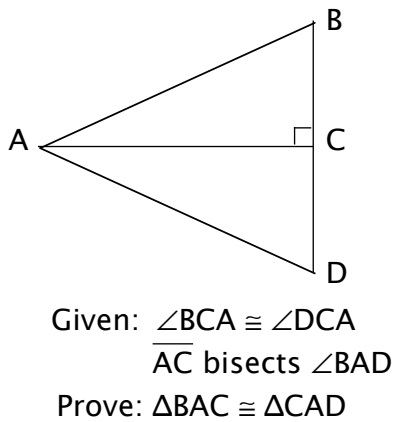
2. cos θ

3. tan θ

4. csc θ

5. sec θ

6. cot θ

V. If the perimeter of triangle ABC is 12, what is the value of X? Is this a right triangle? (6 points)

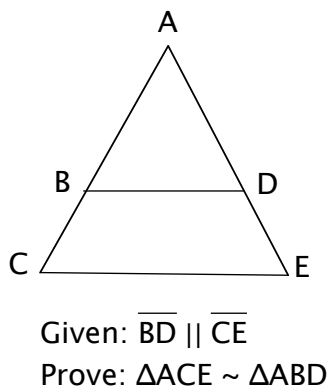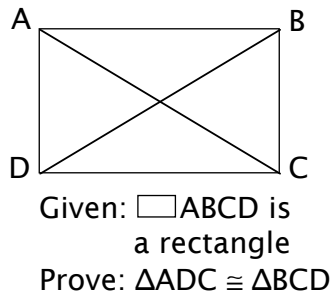VI. Write a proof for each of the following. (12 points each)

1.

B

A ⌐ C

D

Given: ∠BCA ≅ ∠DCA
AC bisects ∠BAD
Prove: ΔBAC ≅ ΔCAD

Statements	Reasons

2.

A

B D

C E

Given: BD ‖ CE
Prove: ΔACE ~ ΔABD

Statements	Reasons

3.

A B

D C

Given: ▭ABCD is
a rectangle
Prove: ΔADC ≅ ΔBCD

Statements	Reasons