

1. Given a line 4 inches long; two angles, 64° , 102° . Construct a triangle. What kind of a triangle is it? Length of other sides?
2. Draw an equilateral triangle whose perimeter is 14 inches.
3. Draw an isosceles triangle whose base is 20^{cm} and the sum of whose sides is 60^{cm} . What are the angles?
4. Draw an isosceles triangle. Draw a line from the middle point of base to the vertex. What can you prove about the two triangles? about the angles at the vertex? about the base and the line dividing the triangle?
5. Draw an angle. Can you bisect it without the aid of a protractor?
6. Draw a straight line. Can you bisect it without measuring?
7. Can you let fall a perpendicular from a given point to a given line? Can you erect a perpendicular to a given line?
8. Draw a triangle. Bisect each of the three angles.
9. Divide an isosceles triangle into two equal triangles.
10. Draw a triangle whose two angles and included side are equal to the two angles and included side of another triangle. How do these triangles compare?
11. To prove that the triangle DEC is equal to the triangle ABE , what three parts of one triangle must be shown to be equal to the corresponding parts of the other triangle? If it is desired to know the length of the line DC , what lines must be measured?
12. Two sides of a triangular grass-plot are 48 feet and 36 feet. The angle included between these two sides is 70° . Draw to convenient scale. How long is the third side?
13. Find the length of a pond between the two points A and B . Fix the point C . Draw AC and BC . The lines AC and BC are how long? Prolong these lines how far? Why are the two triangles equal? How long is ED ? How long is AB ? Why?

