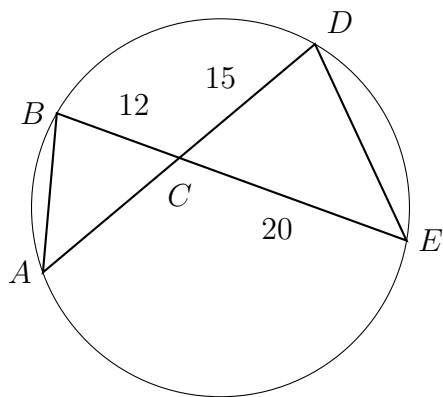


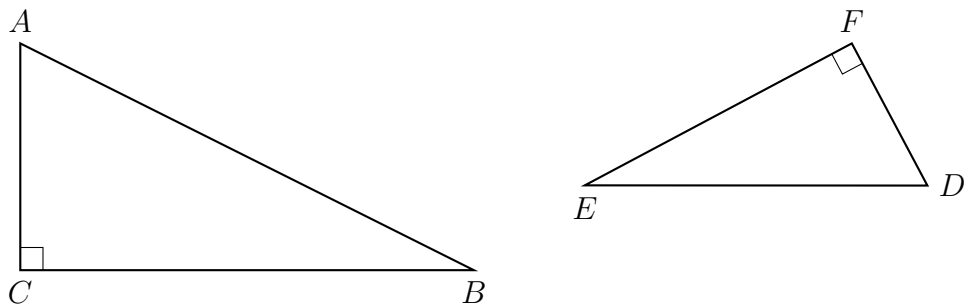
11.8 Similar triangles

1. What are the coordinates of the center and the length of the radius of the circle whose equation is $(x - 3)^2 + (y + 5)^2 = 49$?
2. The equation of a circle is $x^2 + y^2 + 14x - 8y = -16$. What are the center and radius of the circle?
3. Circle O has chords \overline{AD} and \overline{BE} intersecting at C , as shown. Find AC .



4. Find the equation of the line passing through the point $(2, 3)$ and perpendicular to the line $y = \frac{1}{2}x + 5$.
5. The endpoints of directed line segment \overline{AB} have coordinates of $A(5, -12)$ and $B(12, 9)$. What are the coordinates of point M , on \overline{AB} , that divide \overline{AB} into a ratio of 2:5?

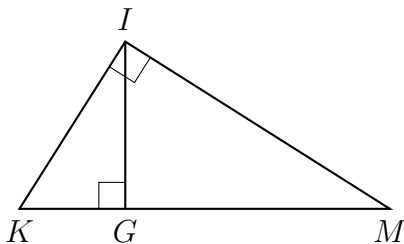
6. In the diagram below of $\triangle ABC$ and $\triangle DEF$, angles C and F are right angles, and $\triangle ABC \sim \triangle DEF$. *not to scale*



If $AB = 29$, $BC = 21$ and $DF = 10$, what is the measure of EF ?

7. A glass block has the shape of a rectangular prism with a length of 8.8 centimeters, a width of 4 cm, and a height of 3.75 cm. If the density of glass is 2.70 grams/cm³, how much does the block weigh, to the nearest gram?

8. In the diagram below of right triangle KMI , altitude \overline{IG} is drawn to hypotenuse \overline{KM} .



If $KG = 25$ and $MG = 81$, what is the length of \overline{IG} ?