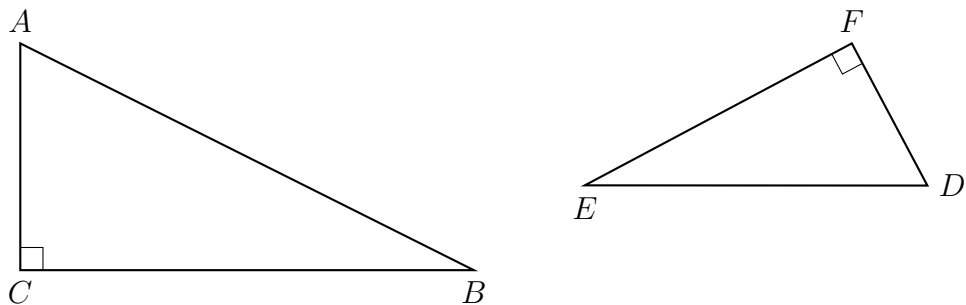


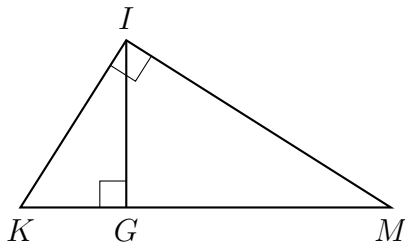
11.8 Similar triangles

1. What are the coordinates of the center and the length of the radius of the circle whose equation is $(x + 2)^2 + (y - 5)^2 = 81$?
2. The equation of a circle is $x^2 + y^2 - 4x + 10y = -20$. What are the center and radius of the circle?
3. In the diagram below of $\triangle ABC$ and $\triangle DEF$, angles C and F are right angles, and $\triangle ABC \sim \triangle DEF$



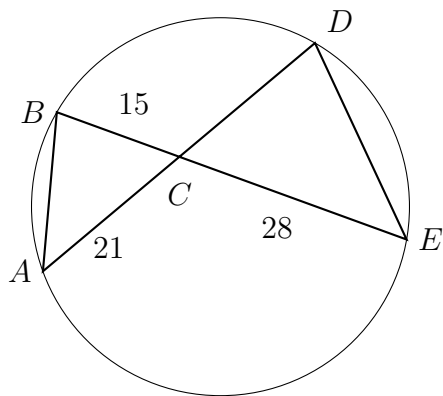
If $AC = 10$, $BC = 22$ and $DF = 6$, what is the measure of EF ?

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



If $KG = 4$ and $MG = 9$, what is the length of \overline{IG} ?

5. Circle O has chords \overline{AD} and \overline{BE} intersecting at C , as shown. Find CD .



6. Determine and state an equation of the line perpendicular to the line $3x - 5y = 15$ and passing through the point $(1, 5)$.
7. The endpoints of directed line segment \overline{AB} have coordinates of $A(-5, -12)$ and $B(5, 3)$. What are the coordinates of point M , on \overline{AB} , that divide \overline{AB} into a ratio of 2:3?
8. At a distance of two miles, the angle of elevation to the top of a radio tower is 3.5° .

What is the height of the tower, to the *nearest foot*? (1 mile = 5280 feet)

not to scale

