Geometry I

1st mid-term sample test

1. Determine the equation of the line, that passes through $A = (-4; 3)$ point such that its distance to the origin is 3. (Hint: use the circle around the origin with radius 3)
2. In $ABC\Delta$, $A = (0; 6)$, B lies on the x axis. Evaluate the area of the triangle if its centroid is $S = (4; 6)$.
3. Determine the equation of the circle that is tangent to the $(x + 1)^2 + (y - 2)^2 = 100$ circle at $P = (7; 8)$ and to the x axis.
4. In $ABC\Delta$, $\mathrm{A} = (-5; 3), \mathrm{B} = (1; -3), \mathrm{C} = (-5; -5)$. Determine the…
    a. equation of the side of AB
    b. the distance of B and C
    c. $ABC\measuredangle$
    d. equation of the circumscribed circle
    e. centroid
    f. equation of the Euler line
    g. orthocenter