Northern Michigan University (Marquette Co, MI)

MA111-04-26W: College Algebra (Andrew A. Poe) Name: _____
Quiz 4 Friday 27 February 2026 2:00 P.M. EST

Time: 15 minutes

1 Find the equation of the line that goes through the points (6,7) and (–5,–5). Write your equation in the form $y = mx + b$.

$m = \frac{y_1 - y_2}{x_1 - x_2} = \frac{7 - -5}{6 - -5} = \frac{7+5}{6+5} = \frac{12}{11}$

$y - y_1 = m(x - x_1)$

$y - 7 = \frac{12}{11}(x - 6)$

$+7 \qquad +7$

$y = \frac{12}{11}(x-6) + 7$

$= \frac{12}{11}x - \frac{72}{11} + \frac{77}{11} = \frac{12}{11}x + \frac{5}{11}$

$y = \frac{12}{11}x + \frac{5}{11}$

2. Find the center and radius of the circle given by:

$x^2 + y^2 = 6x - 8y - 16$

$-6x + 8y \qquad -6x + 8y$

$x^2 - 6x + y^2 + 8y = -16$

$+(6/2)^2 \qquad +(6/2)^2 =$

$+9 \qquad +16 \qquad +9+16$

$x^2 - 6x + 9 + y^2 + 8y + 16 = 9$

$(x-3)^2 + (y+4)^2 = 9$

center: $(3, -4)$

radius: $\sqrt{9} = 3$