1. Find the standard form of the equation of the circle with endpoints of a diameter at (1,4) and (-3,2).

2. Find the distance between points A=(2,4) and B=(-3,1). Find the midpoint of the line segment AB.

Answers

1. $(x+1)^2 + (y-3)^2 = 5$

2. $\text{Distance} = \sqrt{34} \qquad \text{Midpoint} = \left(-\frac{1}{2}, \frac{5}{2}\right)$