

Find the standard equation of a circle with the given endpoints of the diameter.

1.  $(3, 4)$   $(5, 6)$

2.  $(-2, 6)$   $(4, 2)$

3.  $(-2, 7)$   $(-8, 5)$

4.  $(-3, 6)$   $(4, 8)$

Find the center and radius of each circle by completing the square.

5.  $4x^2 + 4y^2 - 16x - 24y + 36 = 0$

6.  $9x^2 + 9y^2 + 6x + 18y + 9 = 0$

7.  $16x^2 + 16y^2 - 32x + 8y = 0$

8.  $3x^2 + 3y^2 - 6x + 24y + 24 = 0$