Find the center and radius.

A. 
\[(x - 3)^2 + (y - 1)^2 = 25\]

B. 
\[x^2 + y^2 = \sqrt{2}\]

C. 
\[x^2 + y^2 + 8x - 6y = -24\]

D. 
\[9x^2 + 54x + 9y^2 - 6y + 64 = 0\]

Find the x-intercept(s) and y-intercept(s). Write “none” if there are none. You don’t need to draw the graphs.

E. 
\[3x + 4y = 12\]

F. 
\[y = 2x - 4\]

G. 
\[x + y = 1\]

H. 
\[y = x^2 + 3x + 2\]

I. 
\[y = x^2 + x - 1\]

Find the slope of the line through the given points.

J. (a) \((-3, 2), (1, -6)\)
(b) \((2, -5), (4, 1)\)
(c) \((-2, 7), (1, 0)\)
(d) \((4, 5), (5, 8)\)

K. (a) \((1, 1), (-1, -1)\)
(b) \((0, 5), (-8, 5)\)
(c) \((-1, 1), (1, -1)\)
(d) \((a, b), (b, a)\)

Write the equations for the lines below in one of the following forms: \(y = mx + b\), \(y = mx\), \(y = b\) or \(x = a\).

L. (a) Slope \(m = -5\), (-2,1) is on the line.

(b) Slope \(m = 4\), (4,-4) is on the line.

(c) Slope \(m = \frac{1}{3}\), (-6,-2/3) is on the line.

(d) Slope \(m = -1\), (0,1) is on the line.

M. (a) \((4,8), (-3,-6)\) are on the line.

(b) (-2,0), (3,-10) are on the line.

(c) (-3,-2), (4,-1) are on the line.

N. (a) Slope \(m = -4\), \(y\)-intercept = 7

(b) Slope \(m = 2\), \(y\)-intercept = 3/2

(c) Slope \(m = -4/3\), \(y\)-intercept = 14

Answers

A. center \((3, 1)\), radius 5
B. center \((0, 0)\), radius \(\sqrt{2}\)
C. center \((-4, 3)\), radius 1
D. center \((-3, \frac{1}{2})\), radius \(\sqrt{2}\)

E. \(x\)-intercept = 4; \(y\)-intercept = 3
F. \(x\)-intercept = 2; \(y\)-intercept = -4
G. \(x\)-intercept = 1; \(y\)-intercept = 1
H. \(x\)-intercept = -1,-2; \(y\)-intercept = 2
I. \(x\)-intercept = \((-1 \pm \sqrt{5})/2\); \(y\)-intercept = -1

J. (a) -2, (b) 3, (c) -7/3, (d) 3

K. (a) 1, (b) 0, (c) -1, (d) -1

L. (a) \(y = -5x - 9\) (b) \(y = 4x - 20\)
(c) \(y = \frac{1}{3}x + \frac{4}{3}\) (d) \(y = -x + 1\)

M. (a) \(y = 2x\) (b) \(y = -2x - 4\)
(c) \(y = \frac{1}{7}x - \frac{11}{7}\)

N. (a) \(y = -4x + 7\) (b) \(y = 2x + \frac{3}{2}\)
(c) \(y = -\frac{4}{3}x + 14\)