Precalc 10.2

$(x-\ )^2+(y-\ )^2=(\ )^2$

Use and determine standard form for the equation of a circle*

Use and determine general form for the equation of a circle*

$x^2+y^2+Dx+Ey+F=0$

Graph circles*

Write the equation of a circle given three points on the circle

*Alg 2 Ch. 10

conic models

activity: play-doh

conic section

ellipse

parabola

hyperbola

degenerate conic

solve systems of equations

activ: Play-doh

Standard Form of the Equation of a Circle	The standard form of the equation of a circle with radius r and center at (h, k) is $$(x - h)^2 + (y - k)^2 = r^2.$$

General Form of the Equation of a Circle

The general form of the equation of a circle is

$$x^2 + y^2 + Dx + Ey + F = 0,$$

where D, E, and F are constants.

$+Cxy$

C is involved when there is an xy term (rotation) later in the chapter.

$x^2 + y^2 + Dx + Ey + F = 0$

4 **Write the standard form of the equation of the circle that passes through the points at (5, 3), (−2, 2), and (−1, −5). Then identify the center and radius of the circle.**

Alg 2
Matrix equations
coefficient matrix
variable matrix
constant matrix

$2x+y = 3$
$x-y = 6$

[A] [B] [C]

$B \cdot A^{-1}$

$3\times1 \cdot 3\times3$

$A^{-1} * B$

Set up equations & simplify
Use technology to solve

4 **Write the standard form of the equation of the circle that passes through the points at (5, 3), (−2, 2), and (−1, −5). Then identify the center and radius of the circle.**