What may be on Thursday's final?

Mostly topics you've seen on previous tests plus some questions from 13.1 - 13.3.

Questions like these will appear on the final. [See p 873]

(1) [Like #4] Find the center and radius of the graph of

$$x^2 - 10x + y^2 + 2y = 10$$

Answer:

$$x^2 - 10x + 25 + y^2 + 2y + 1 = 10 + 25 + 1$$

$$(x-5)^2 + (y+1)^2 = 36$$

center = $(5, -1)$ radius = 6

(2) [Like #3] Find an equation of a circle with center $(-4, 9)$, and radius $2\sqrt{5}$.

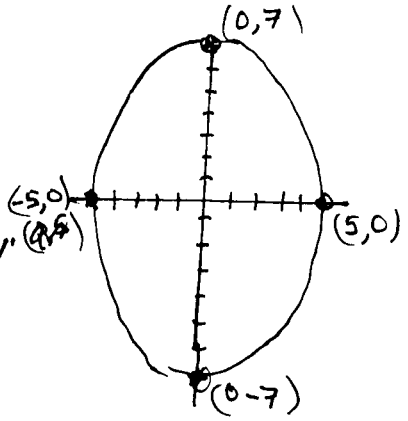
Answer:

$$(x-h)^2 + (y-k)^2 = r^2$$

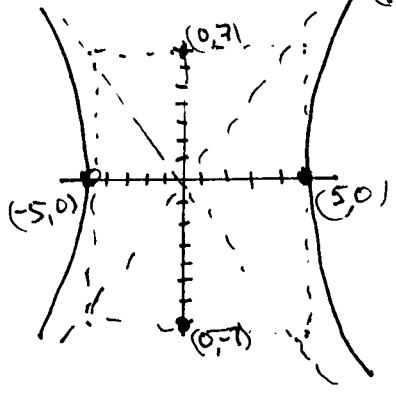
$$(x+4)^2 + (y-9)^2 = (2\sqrt{5})^2 \text{ OR}$$

$$(x+4)^2 + (y-9)^2 = 20$$

(3) [Like #7] Graph $\frac{x^2}{25} + \frac{y^2}{49} = 1$



[OR like #8] Graph $\frac{x^2}{25} - \frac{y^2}{49} = 1$



OVERVIEW of what we've covered

Ch 8: Systems of linear equations

Ch 9: Inequalities and absolute value equations

Ch 10: Exponents and radicals

Ch 11: Quadratic functions and equations

Ch 12: Exponential and log functions

Ch 13: Conic sections

From Test 1: sample questions

problem (2) verify a solution

(3) Solve by graphing

(9) Solve a system of 3 equations

(10) Word problem (maybe)

One or two from (11) - (16), Ch. 9 - style problems

(19) Determinant (maybe)

(20) matrix in triangular form: solve the system (maybe)

No Cramer's Rule, No elementary row operations.

added after class ended

From Test 2: Expect problems similar to

Problems (3), (4) } rational exponents

(8) rationalizing denominators

(9), (12) } properties of exponents

(14) simplifying and adding radicals

(19) radical equation

(23) solving right triangles

From Test 3: Sample questions

Problem (1) Complex number arithmetic

(3), (4) Quadratic formula, completing the square

(6) Solutions → quadratic equation with those solutions

(8), (9) Reducible-to-quadratic equations

From Test 4: Sample questions

Problem (1), (2) } Graphs of quadratic functions

(6) Find $f^{-1}(x)$

(7) Convert: log form ↔ exponential form

(10), (11) } exponential equations

(12) logarithmic equation

(15) application of exponential equations

From Chapter 11: See above.