Review for Exam 2

Section 2.3

Solving quadratic equations-- $ax^2 + bx + c = 0$

(1) solve by factoring

(2) solve by completing the square (do not have to)

(3) solve by quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

applications

Section 2.4

Imaginary numbers

Section 2.5

Radical equations (check for extra solutions)
absolute value equations, etc.

Section 2.6

Inequalities
absolute value inequalities
applications

Section 3.1

distance formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

midpoint formula: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

Section 3.2

graphing

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

half circles

Section 3.3

Lines:

slope = $m=\dfrac{y_2-y_1}{x_2-x_1}$

equations of lines:

(1) $y-y_1=m(x-x_1)$

(2) $y=mx+b$

know how to leave in general form

applications

Section 3.4 Functions

Finding function values or expressions

Example: Given: $f(x)=x^2-3$**, find:** $\dfrac{f(a+h)-f(a)}{h}$

Find domain, range, etc...given a graph

Find domain given a function