

1.1 #43

$$x + (y-1)^2 = 0$$

recall:
 $|a| = \sqrt{a^2}$

Solve for y

$$(y-1)^2 = -x$$

$$\sqrt{(y-1)^2} = \sqrt{-x}$$

$$|y-1| = \sqrt{-x}$$

So either

$$y-1 = \sqrt{-x}$$

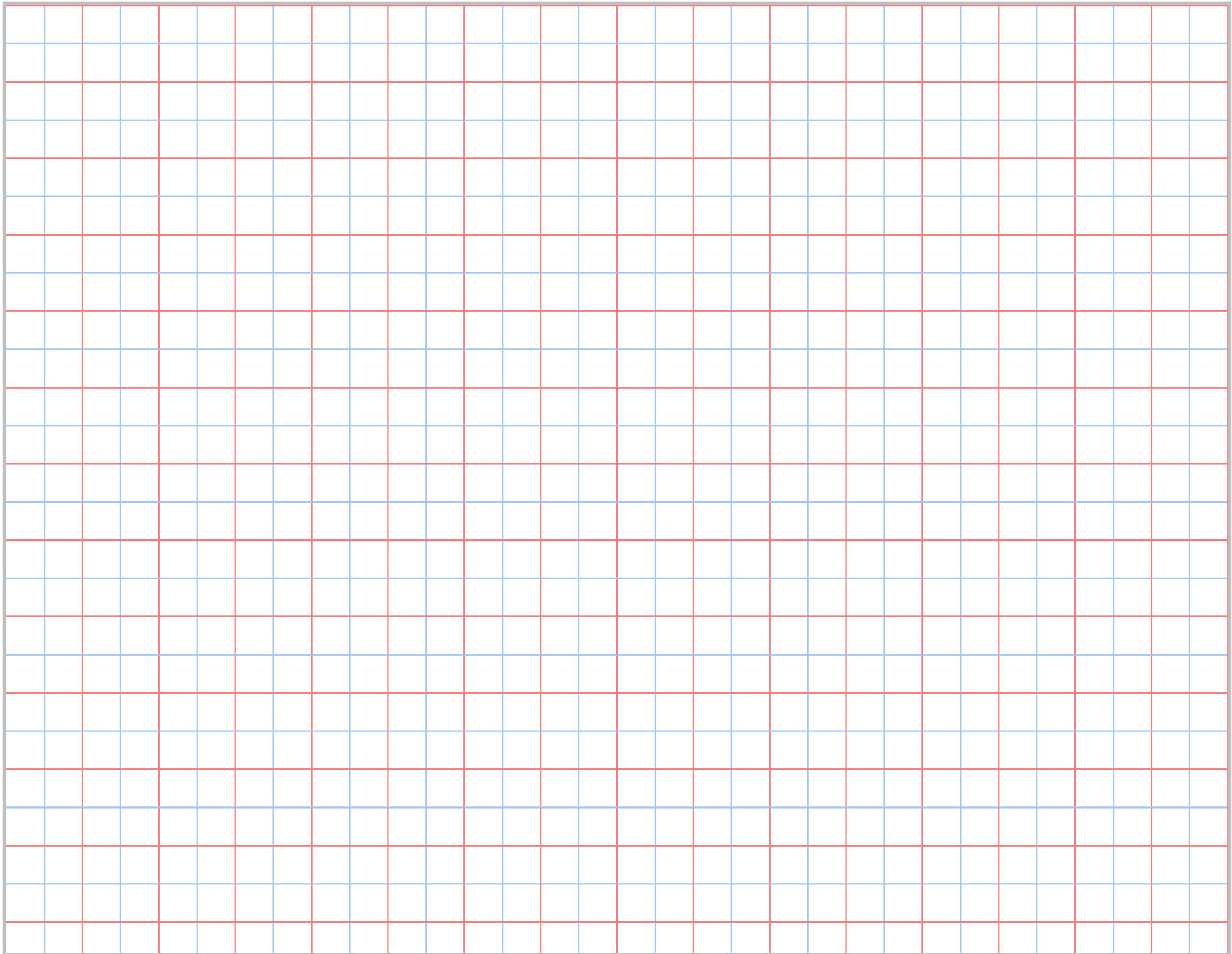
$$\rightarrow y = \sqrt{-x} + 1$$

or $-(y-1) = \sqrt{-x}$

$$\rightarrow y-1 = -\sqrt{-x}$$

$$y = 1 - \sqrt{-x}$$

bottom
half



1.2

Poly nomial:

$$a_n x^n + a_{n-1} x^{n-1} \dots \dots a_1 x^1 + a_0$$

eg $14x^5 - \frac{1}{3}x^3 + 2.9x^2 + 3$

$a_5=14$ $a_4=0$ $a_3=-\frac{1}{3}$, $a_2=2.9$, $a_1=0$, $a_0=3$

Recall

$(x-a)$ is a factor of

a polynomial $p(x)$

if and only if

$$\iff p(a) = 0$$

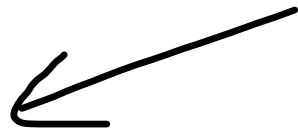
i.e. a is a root

Rational functions:

$$\frac{p(x)}{q(x)}$$



both polynomials



If in reduced form, i.e. p, q have no common factors

zeros where $p(x)$ has zeros

vert. asymptotes where $q(x)$ has zeros

Sneak ahead to 1.3

