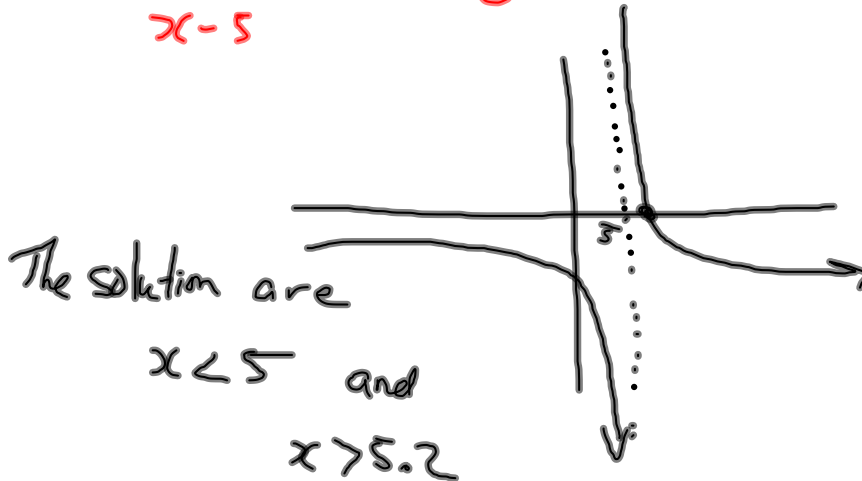


Solving Rational Equations/Inequalities

Solve $\frac{2}{x-5} < 10$.

With technology

$$\frac{2}{x-5} - 10 < 0$$



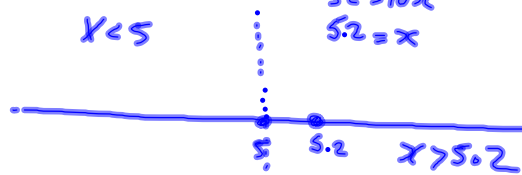
Solving Rational Equations/Inequalities

Solve $\frac{2}{x-5} < 10$.

* V.A. of $x=5$
 * x-ints are $-10x+52=0$
 $52=10x$
 $5.2=x$

$$\frac{2}{x-5} - 10 < 0$$

$$\frac{-10x+52}{x-5} < 0$$



Factors	$x < 5$	$5 < x < 5.2$	$x > 5.2$
$(-10x+52)$	+	+	-
$(x-5)$	-	+	+
$\frac{-10x+52}{x-5}$	-	+	-

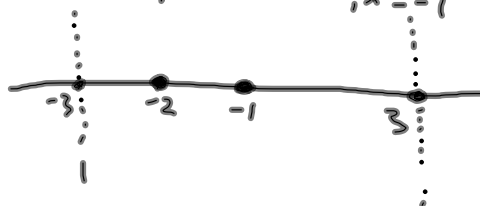
The solutions are
 $x < 5$ and $x > 5.2$

Solving Rational Equations/Inequalities

Solve $\frac{x^2 + 3x + 2}{x^2 - 9} \leq 0$

v.f. @ $x=3, x=-3$
 x-intercepts of $x=-2, x=-1$

$$\frac{(x+2)(x+1)}{(x+3)(x-3)} \leq 0$$



factors	$x < -3$	$-3 < x < -2$	$-2 \leq x \leq -1$	$-1 \leq x < 3$	$x > 3$
$(x+2)$	-	-	+	+	+
$(x+1)$	-	-	-	+	+
$(x+3)$	-	+	+	+	+
$(x-3)$	-	-	-	-	-
	+	-	+	-	+

The solutions are

$-3 \leq x \leq -2$ and $-1 \leq x < 3$
 $-3 < x \leq -2$ and $-1 < x < 3$