

Quiz 2

Solve the inequality

$$\frac{3x - 5}{x - 5} > 4$$

Solution. The inequality is equivalent to

$$\frac{3x - 5}{x - 5} - \frac{4(x - 5)}{x - 5} > 0,$$

which is equivalent to

$$\frac{-x + 15}{x - 5} > 0.$$

Thus there are two critical numbers and three test intervals, $(-\infty, 5)$, $(5, 15)$, $(15, \infty)$. Check these to see that just the middle one works. Thus the set we seek is $5 < x < 15$.