Algebra 1 5.2

Solve linear inequalities by using multiplication*
Solve linear inequalities by using division*

*MS standard

neg.
< >

multiplication property of (in)equality
division property of (in)equality
triangle puzzles

Example 3 Divide to Solve an Inequality

Solve each inequality. Graph the solution on a number line.

a. $60t > 8$

$\frac{}{60} \quad \frac{}{60}$



$t > 0.1333\ldots$

b. $-7d \leq 147$

$\frac{}{-7} \quad \frac{}{-7}$

$d \geq -21$

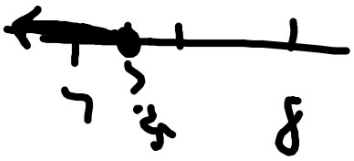


GuidedPractice

3A. $8p \leq 58$

$\frac{8}{8} \quad \frac{}{8}$

$p \leq 7.25$



3B. $-42 \geq 6r$

$\frac{}{6} \quad \frac{6r}{6}$

$-7 \geq r$

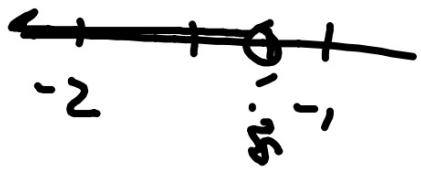
$r \leq -7$



3C. $-12h > 15$

$\frac{-12h}{-12} \quad \frac{15}{-12}$

$h < -1.25$



3D. $-\frac{1}{2}n \leq 6$

$\frac{-2}{1} \quad \frac{6}{1}$

$n \geq -12$

$-\frac{2}{2}n \leq 12$

$\frac{-1n}{-1} \leq \frac{12}{-1}$

$h \geq -12$

Triangle puzzle

Real-World Example 1 Write and Solve an Inequality

SURVEYS Of the students surveyed at Madison High School, fewer than eighty-four said they have never purchased an item online. This is about one eighth of those surveyed. How many students were surveyed?