4.2

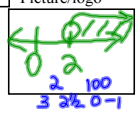
20

Solve inequalities using Multiplication and Divison

Vocabulary Terms

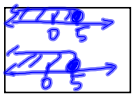
Graph of an inequality Picture/logo

in one variable is the set of points that represent all solutions of the inequality.



Equivalent inequalities Picture/logo

are inequalities that have the same solutions.



Oct 28-1:59 PM

Example:

$\frac{2x}{2} < \frac{12}{2}$ $\quad \frac{2x}{2} = \frac{12}{2}$

$x < 6$ $\quad x = 6$

0 6

Oct 28-2:01 PM

Example:

$4 \cdot \frac{w}{4} \geq 5 \cdot 4$

$w \geq 20$

0 20 24

CHECK

$\frac{24}{4} \geq 5$

$6 \geq 5$

Oct 28-2:15 PM

Key Concept

Multiplying or **Dividing** each side of the inequality by a negative number **reverses** the direction of the inequality symbol.

Oct 28-2:36 PM

Example:

$-3 \cdot \frac{x}{-3} < 7 \cdot (-3)$

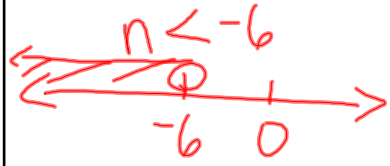
$x > -21$

Oct 28-2:17 PM

Example:

$\frac{-4n}{-4} > \frac{24}{-4}$

$n < -6$



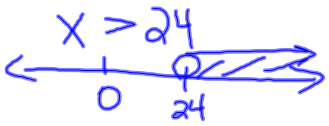
-6 0

Oct 28-2:18 PM

Guided Practice:
Solve and graph on a number line.

1) $\frac{x}{2} > 12$ ·2

$x > 24$



2) $\frac{5v}{5} \geq \frac{45}{5}$

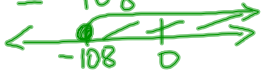
$v \geq 9$

Oct 28-2:25 PM

Guided Practice:

3) $\frac{r}{6} \leq -18$ ·6

$r \leq -108$



4) $\frac{-56}{8} < \frac{8n}{8}$

$-7 < n$

$n > -7$

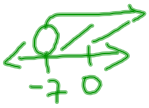
Oct 28-2:26 PM

Guided Practice:

5) $\frac{28}{-4} > \frac{-4y}{-4}$

$-7 < y$

$y > -7$

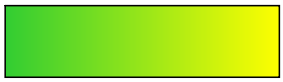


6) $\frac{n}{-7} \leq (1.6)(-7)$

$n \geq -11.2$

Oct 28-2:32 PM

Assignment Page 199
5-27 ODD & 33-38 ALL



Oct 28-4:00 PM

Sep 28-12:40 PM