NAME: Period:

Notes 4-6
Solving Inequalities:
Multiplication & Division

Int 1 **Unit 4**

TRUE or FALSE???

1) $2 < 10$ True

2) $-2 < -10$ False

3) $-2 < 10$ True

4) $2 < -10$ False

Solve the following inequalities using INVERSE OPERATIONS. Check your answers.

5) $\frac{4x}{4} < \frac{40}{4}$

$x < 10$

$0 < 10$ True

$4(0) < 40$

$0 < 40$ True

6) $\frac{4x}{4} < \frac{-40}{4}$

$x < -10$

$0 < -10$ False

$4(0) < -40$

$0 < -40$ False

7) $\frac{-4x}{-4} < \frac{40}{-4}$

$x > -10$

$0 < 40$ True

$0 > -10$ True

$0 < -10$ False

$-4(0) < 40$

$0 < 40$ True

IMPORTANT!!!

When I • OR ÷ by a -#

I must switch the < >

Solve using INVERSE OPERATIONS. Check your answers!

8) $5m \geq -10$

$\frac{5m}{5} \geq \frac{-10}{5}$

$m \geq -2$

9) $-5m \geq -10$

$\frac{-5m}{-5} \leq \frac{-10}{-5}$

$m \leq 2$

10) $+2g < -10$

$\frac{+2g}{+2} < \frac{-10}{+2}$

$g > 5$

11) $-\frac{3}{4}n > 12$

$\frac{4}{3} \cdot -\frac{3}{4}n > 12 \cdot -\frac{4}{3}$

$n < -16$

12) $\frac{y}{3} < -15$

$3 \cdot \frac{y}{3} < -15 \cdot 3$

$y < -45$

Not a $-\#$. Don't flip.

13) $\frac{3n}{3} \leq \frac{-27}{3}$ ← Don't flip

$n \leq -9$

14) $\frac{w}{-4} < 1$

$-4 \cdot \frac{w}{-4} < 1 \cdot -4$ ← $-\#$ means flip!

$w > -4$

Solve using INVERSE OPERATIONS. Then, graph your answer on the numberline provided.

15) $-6y < 24$

$\frac{-6y}{-6} > \frac{24}{-6}$

$y > -4$

16) $-10 \geq 2x$

$\frac{-10}{2} \geq \frac{2x}{2}$

$-5 \geq x$

$x \leq -5$

17) $-2 \cdot \frac{k}{-2} < -4 \cdot -2$

$k > 8$