# November 24th

Due Next Class: TEST

Unit 4: Inequalities
Lesson 4.5: Inequalities Test Review

Get Ready:

**TEST ON MONDAY**

Sam cuts a 10 m rope into two pieces.

How long is the longer piece?

How long is the shorter piece?

## Inequalities SOS

Will inequalities give us one exact value as the answer?

RANGE
many solutions

$<$ $\le$ $>$ $\ge$

Equations $\rightarrow$ $=$
1 solution

● : $\le$, $\ge$

$-\frac{5t}{4} + 2 > 2$
$-2 \quad -2$
$4\left(\frac{-5t}{4}\right) > (0)4$
$\frac{-5t}{-5} > \frac{0}{-5}$
$t < 0$

-1 0 1 2

What is the difference?

**x > 8** | **8 > x**

x is greater than 8 | 8 is greater than x

$8 < x$ | $x < 8$

Write the Inequality

-4 -3 -2 -1 0 1 2 3

$x \le -2$ OR $x > 2$

4) $\frac{n}{3} \ge 1$ or $8n < 8$

-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

$3\left(\frac{n}{3}\right) \ge (1)3$ | $\frac{8n}{8} < \frac{8}{8}$

$n \ge 3$ OR $n < 1$

12) $8m - 5 \le 6 - 3m \le 8m + 6$

-10 -8 -6 -4 -2 0 2

$8m - 5 \le 6 - 3m$ And $6 - 3m \le 8m + 6$
$+3m \quad +3m \qquad +3m \quad +3m$
$11m - 5 \le 6 \qquad 6 \le 11m + 6$
$+5 \quad +5 \qquad -6 \quad -6$
$\frac{11m}{11} \le \frac{11}{11} \qquad \frac{0}{11} \le \frac{11m}{11}$
$m \le 1$ And $0 \le m$

Mr. Rogers is baking some cookies for his advisory. He has already spent \$9 on supplies but would also like to get candy. He **doesn't want to spend more than** \$23 on all of the treats. If each bag of candy costs \$1.25, then what is the most number of bags that Mr. Rogers can buy?

$9 + 1.25x \le 23$
$-9 \qquad -9$
$\frac{1.25x}{1.25} \le \frac{14}{1.25}$
$x \le 11.2$

$23 \ge 1.25x + 9$

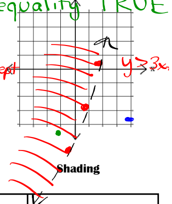
At most Mr. Rogers can buy 11 bags of candy.

What does it mean for a point to be a solution to a linear inequality?

Within the shade region or on the solid line.
When plugged into the inequality, a solution will make the inequality TRUE

$3x - y < 1$
$-3x \quad -3x$
$\frac{-y}{-1} < \frac{-3x - 1}{-1}$
$\boxed{y > 3x + 1}$

$\rightarrow$ transform to Slope-intercept form.



$y > 3x + 1$

| Line | |
|---|---|
| | |
| $\ge$ $\le$ | Solid |
| $>$ $<$ | Dashed |

| Shading | |
|---|---|
| | |
| $>$ $\ge$ | Above |
| $<$ $\le$ | Below |

(0, 1) | (-2, 0) | (3, 1)

$y > 3x + 1$ | $y > 3x + 1$ | $y > 3x + 1$

$1 > 3(0) + 1$ | $0 > 3(-2) + 1$ | $3 > 3(1) + 1$

$0 > -6 + 1$