


Algebra 1

Solving and Graphing Compound Inequalities



$\frac{2a + 16 = 19}{2a + 16 = 19}$
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 $b = 2$

$3x + 2y = 39$
 $2x + y = 14$

$x + 4 = 6$
 $x + 4 = 6$
 $x = 5$

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Compound Inequalities and or

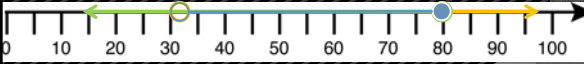
\$6 tickets free

$x \geq 6$ and $x \leq 11$ $x \leq 5$ or $x \geq 56$

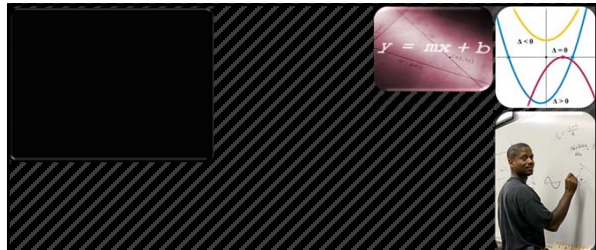
Tickets:
0 – 5 years: free
6 – 11 years: \$6.00
12 – 55 years: \$10.00
56 years or older: free

Overview

$x > 32$
and
 $80 \geq x$
 $80 \geq x > 32$



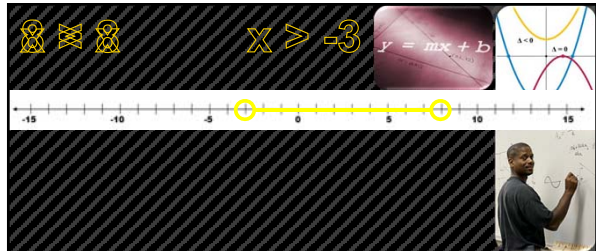
Graphing Compound Inequalities



Translate this verbal expression into an Inequality, and then graph the Inequality:

All real numbers that are less than 8 and more than -3

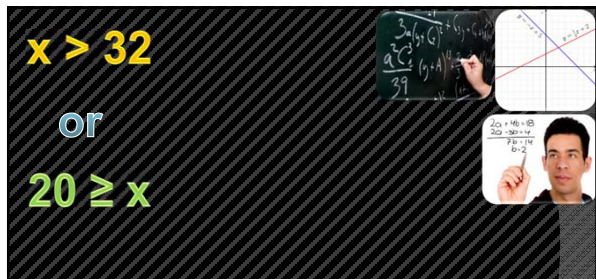
You Try!



Translate this verbal expression into an Inequality, and then graph the Inequality:

All real numbers that are less than 8 and more than -3

You Try!



$x > 32$
or
 $20 \geq x$

Graphing Compound Inequalities

Write and graph an Inequality that describes this situation:
The temperature is uncomfortable to me when it is cooler than 55° or warmer than 90°.

You Try!

Write and graph an Inequality that describes this situation:
The temperature is uncomfortable to me when it is cooler than 55° or warmer than 90°.
 x = uncomfortable temperature
 $x < 55$ or $x > 90$

You Try!

$12 > x - 3 > 5$

$12 > x - 3$

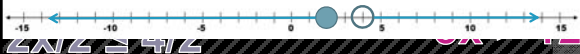
$12 + 3 > x - 3 + 3$

$x - 3 > 5$ **$15 > x > 8$**


$x - 3 + 3 > 5 + 3$


$x > 8$

Solving Compound Inequalities

$2x \leq 4$ or $3x + 1 > 13$
 $2x \leq 4$ $3x + 1 > 13$
 $3x + 1 - 1 > 13 - 1$

 $x \leq 2$ or $x > 4$
 Solving Compound Inequalities

Solve for x and graph your results:
 $-5 < 5 - x < 16$


 You Try It!

Solve for x and graph your results:
 $-5 < 5 - x < 16$
 $-5 < 5 - x$ $5 - x < 16$
 $-5 - 5 < 5 - 5 - x$ $5 - 5 - x < 16 - 5$
 $-10 < -x$ $-x < 11$
 $(-10)/(-1) < (-x)/(-1)$ $-x/-1 < 11/-1$
 $10 > x$ $x > -11$

 You Try It!
