Sec 1.7.2

Solving Inequalities

For each, use interval notation to express solution sets AND graph on a number line.

$3 - 2x < 11$

$-2x < 8$

$x > -4$

$(-4, \infty)$

$$-2x - 4 \geq x + 5$$

$$-3x \geq 9$$

$$x \leq -3$$

$$(-\infty, -3]$$

$$12\left[\frac{x+3}{4} \geq \frac{x-2}{3} + \frac{1}{4}\right]$$

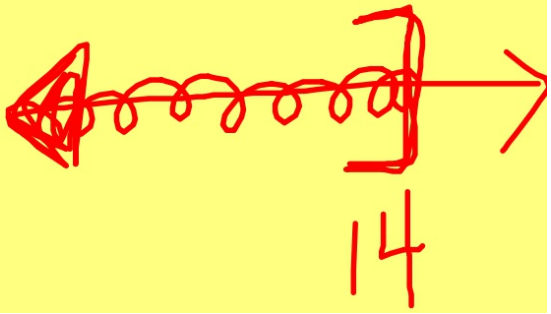
$$3(x+3) \geq 4(x-2) + 3$$

$$3x + 9 \geq 4x - 8 + 3$$

$$-x \geq -14$$

$$x \leq 14$$

$(-\infty, 14]$



$$6\left(\frac{x-4}{2} \geq \frac{x-2}{3} + \frac{5}{6}\right)$$

$$3(x-4) \geq 2(x-2) + 5$$

$$3x - 12 \geq 2x - 4 + 5$$

$$x \geq 1$$

$2(x+4) > 2x + 3$

$2x + 8 > 2x + 3$

~~$8 > 3$~~

~~true...~~

all reals

(-inf, inf)

$(-\infty, \infty)$

$x + 7 \leq x - 2$

$7 \leq -2$

~~false...~~

no solutions

$\varnothing$

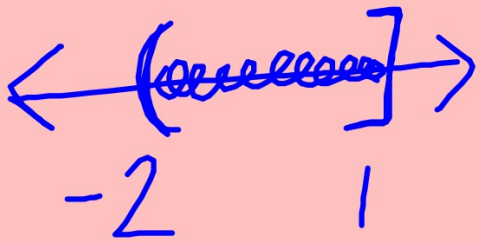
$$-3 < 2x + 1 \leq 3$$

$$-1 \quad -1 \quad -1$$

$$-\frac{4}{2} < \frac{2x}{2} \leq \frac{2}{2}$$

$$-2 < x \leq 1$$

$(-2, 1]$



Suggested Practice

Sec 1.7

page 196

27-48 multiples of 3

50-58 evens

BULLITT EAST HIGH SCHOOL

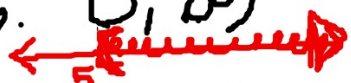
Go Chargers!

27. $(-\infty, 3)$

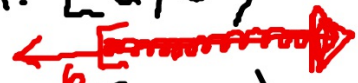
30. $[2, \infty)$

33. $(-\infty, -2/5]$

36. $(5, \infty)$



39. $[6, \infty)$



42. $[-2, \infty)$

45. $[13, \infty)$

48. $\emptyset$

50. $\emptyset$

52. $(2, 6)$

54. $(-2, 5]$

56. $[3/2, 11/2)$

58. $[-4, 2)$