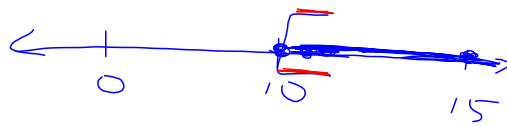


8.1  
p 567

ex 10

$$\begin{aligned} x - 3 &\geq 7 \\ +3 &\quad +3 \\ \hline x &\geq 10 \end{aligned}$$



$$[10, \infty)$$



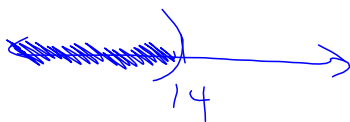
Feb 15-6:24 PM

ex 12

$$\begin{aligned} 5x + 6 &< 76 \\ -6 &\quad -6 \end{aligned}$$

$$\begin{aligned} 5x &< 70 \\ \frac{5}{5} &\quad \frac{5}{5} \end{aligned}$$

$$x < 14$$

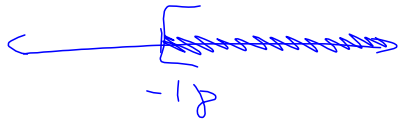


$$(-\infty, 14)$$

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$$\text{ex 16} \\ \frac{(-\frac{3}{2})(-\frac{2}{3})x}{1} = 12(-\frac{3}{2})$$

$$x \geq -18$$



$$[-18, \infty)$$

Any time  
you multiply  
or divide BY  
a negative #,  
switch the  
inequality.

Feb 15-6:40 PM

$$\text{ex 20} \quad 4x + 1 = -31$$

$$\frac{4x}{4} \leq \frac{-32}{4}$$

$$x \leq -8$$



$$(-\infty, -8]$$

Feb 15-6:44 PM


ex 22

$$\frac{3x-1}{4} > 5 \cdot 4$$

$$3x - 1 > 20$$

$$\begin{matrix} +1 & +1 \end{matrix}$$

$$\frac{3x}{3} > \frac{21}{3} \quad (7, \infty)$$

$$x > 7$$


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ex 26

$$2x - 8 \geq -2x$$

$$\begin{matrix} +2x & +2x \end{matrix}$$

$$4x - 8 \geq 0$$

$$\begin{matrix} +8 & +8 \end{matrix}$$

$$\frac{4x}{4} \geq \frac{8}{4}$$

$$x \geq 2$$


$$2x - 8 \geq -2x$$

$$\begin{matrix} +2x & +2x \end{matrix}$$

$$-8 \geq -4x$$

$$\begin{matrix} -4 & -4 \end{matrix}$$

$$2 \leq x$$

$$x \geq 2$$


$$[2, \infty)$$

Feb 15-6:50 PM

ex 32  $-2(x+4) \leq 6x+16$

$$\begin{array}{r} -2x - 8 \\ -6x + 8 \end{array} \leq \begin{array}{r} \cancel{6x} + 16 \\ -6x + 8 \end{array}$$

$$\begin{array}{r} -8x \\ -8 \end{array} \leq \begin{array}{r} 24 \\ -8 \end{array}$$



$$x \geq -3$$

$$[-3, \infty)$$

Feb 15-6:56 PM

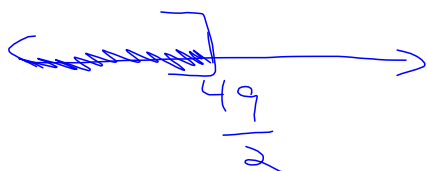
ex 36

$$\frac{3}{5}(t-2) - \frac{1}{4}\left(\frac{2t}{1} - \frac{7}{1}\right) \leq 3$$

$$20\left(\frac{3}{5}t - \frac{6}{5} - \frac{1}{2}t + \frac{7}{4}\right) \leq 3(20)$$

$$12t - 24 - 10t + 35 \leq 60$$

$$\begin{array}{r} 2t + 11 \\ -11 \quad -11 \end{array} \leq 60$$



$$\left(-\infty, \frac{49}{2}\right]$$

$$\begin{array}{r} 2t \leq 49 \\ \frac{2t}{2} \leq \frac{49}{2} \end{array}$$

$$t \leq \frac{49}{2}$$

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ex 38

$$7(4-x) + 5x < 2(16-x)$$

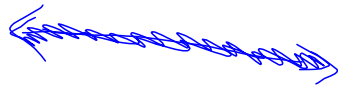
$$28 - 7x + 5x < 32 - 2x$$

$$\begin{array}{r} 28 - 2x < 32 - 2x \\ -32 + 2x \quad -32 + 2x \end{array}$$

$$0 < 4$$

$$28 < 32$$

$$-4 < 0$$



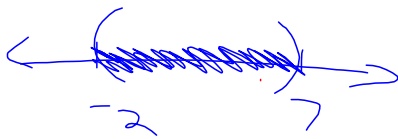
$$(-\infty, \infty)$$

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ex 44

$$\begin{array}{l} -1 < x+1 < 8 \\ -1 < \quad -1 < \quad -1 \\ -2 < \quad x < 7 \end{array}$$

$$\begin{array}{l} -1 < x+1 \text{ and} \\ x+1 < 8 \end{array}$$



$$(-2, 7)$$

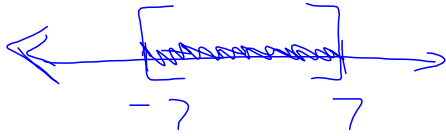
Feb 15-7:10 PM

ex 46

$$-4 \leq x+3 \leq 10$$

$$-3 \quad \quad -3 \quad \quad -3$$

$$-7 \leq x \leq 7$$



$$[-7, 7]$$

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ex 50

$$-16 < 3x+2 < -10$$

$$-2 \quad \quad -2 \quad \quad -2$$

$$-\frac{18}{3} < \frac{3x}{3} < -\frac{12}{3}$$



$$-6 < x < -4$$

$$(-6, -4)$$

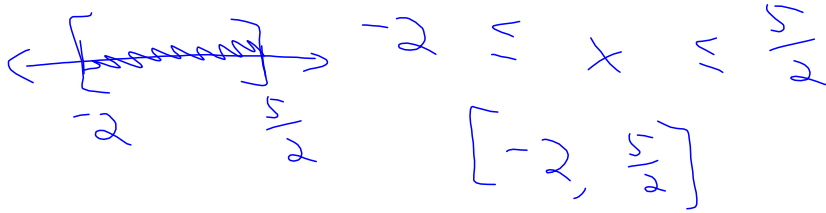
Feb 15-7:17 PM

ex 54

$$\frac{-12}{-3} \leq \frac{-6x + 3}{-3} \leq \frac{15}{-3}$$

$$\frac{-15}{-6} \leq \frac{-6x}{-6} \leq \frac{12}{-6}$$

$$\frac{5}{2} \geq x \geq -2$$



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ex 56

$$\frac{-3}{4} \leq \frac{3x + 1}{4} \leq \frac{3}{4}$$

$$\frac{-12}{-1} \leq \frac{3x + 1}{-1} \leq \frac{12}{-1}$$

$$\frac{-13}{3} \leq \frac{3x}{3} \leq \frac{11}{3}$$

$$\frac{-13}{3} \leq x \leq \frac{11}{3}$$

$$\left[ \frac{-13}{3}, \frac{11}{3} \right]$$

Feb 15-7:24 PM

8.2  
p. 573

$A = \{1, 2, 3, 4, 5, 6\}$   
 $B = \{1, 3, 5\}$   
 $C = \{1, 6\}$   
 $D = \{4\}$

intersection  
 $\downarrow$  And

ex 8  $A \cap B = \{1, 3, 5\}$

ex 14  $\leftarrow$  union "or"

$B \cup D = \{1, 3, 4, 5\}$

ex 10  $B \cap C = \{1\}$

ex 12  $A \cap \emptyset = \emptyset$  or  $\{\}$   
 $\uparrow$   
 $\{\}$

ex  $B \cup C = \{1, 3, 5, 6\}$

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ex 16

~~$x < 5$~~   $\rightarrow$  intersection:  
 $\leftarrow$   ~~$x > 0$~~   $\rightarrow$

$0$   $5$   $0$   $5$

ex 20  $x < 5$  and  $x > 0$

$\leftarrow$   ~~$x < 5$~~   $\rightarrow$   $(0, 5)$   
 $0$   $5$

Feb 15-7:36 PM



ex 22

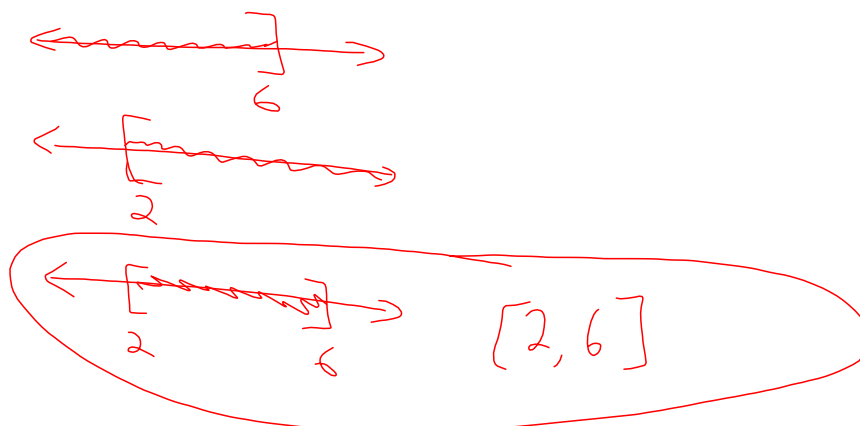
$$x \geq 3 \text{ and } x \geq 6$$



Feb 15-7:40 PM

ex 26

$$\begin{array}{rcl} x + 5 & = & 11 \\ -5 & -5 & \\ \hline x & = & 6 \end{array} \quad \text{and} \quad \begin{array}{rcl} x - 3 & \geq & -1 \\ +3 & +3 & \\ \hline x & \geq & 2 \end{array}$$



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ex 30  $7x + 6 \leq 48$  and  $-4x \geq -24$

$-6 \quad -6$

$7x \leq 42$

$x \leq 6$

~~-----~~  $\rightarrow$

$6$

~~-----~~  $\rightarrow$

$6$

~~-----~~  $\rightarrow$

$6$

$(-\infty, 6]$

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ex 32

~~-----~~  $\rightarrow$

$-5$

$\leftarrow$  -----  $\rightarrow$

$6$

union

~~-----~~  $\leftarrow$   $\rightarrow$  -----  $\rightarrow$

$-5$   $6$

ex 34

$\leftarrow$  -----  $\rightarrow$

$1$

$\leftarrow$  -----  $\rightarrow$

$8$

union

~~-----~~  $\leftarrow$   $\rightarrow$  -----  $\rightarrow$

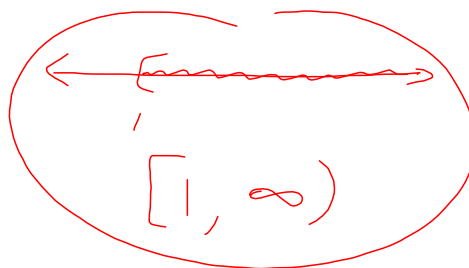
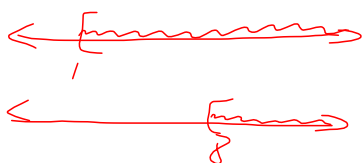
$1$   $8$

intersection and $\cap$	Union or $\cup$
----------------------------	--------------------

Feb 15-7:49 PM

ex 36

$$x \geq 1 \text{ or } x \geq 8$$



Feb 15-7:54 PM

ex 42

$$x + 1 > 3 \text{ or } x + 4 < 2$$

$$x > 2$$

$$x < -2$$



$$(-\infty, -2) \cup (2, \infty)$$

Feb 15-7:56 PM

ex 46

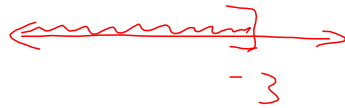
$$3x + 2 \leq -7 \quad \text{or} \quad -2x + 1 \leq 9$$

$$3x \leq -9$$

$$-2x \leq 8$$

$$x \leq -3$$

$$x \geq -4$$



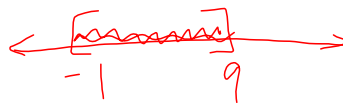
Feb 15-7:59 PM

ex 48

$$[-1, \infty) \cap (-\infty, 9]$$

intersect

and



Feb 15-8:03 PM

ex 52  $[-9, 1] \cup (-\infty, -3)$   
 or  
 union

$(-\infty, 1]$

Feb 15-8:06 PM

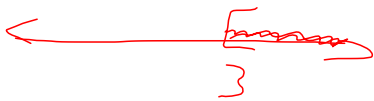
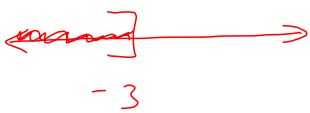
ex 56  $x > -1$  and  $x < 7$

$(-1, 7)$

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ex 62  $-8x = -24$  or  $-5x \geq 15$

$x \geq 3$   $x \leq -3$

$(-\infty, -3] \cup [3, \infty)$

Feb 15-8:11 PM

15 8.1-8.2	17 8.3-8.4
22 finish 8.4? 9.1	24 9.2
29 Ch. 8 test	2 9.3
7 Ch. 9 TEST	

Feb 15-8:15 PM