

p. 352: 21, 24, 25, 28, 29, 32, 33,
36-40 (a)

$$\textcircled{21} \quad x \leq -2 \text{ or } x > 5$$

$$\textcircled{24} \quad x \geq -2 \text{ or } x > 0$$

$$\textcircled{25} \quad x < -6 \text{ or } x \geq -2$$

$$\textcircled{28} \quad x \geq -5 \text{ or } x < -16$$

$$\textcircled{29} \quad x < 10 \text{ or } x > 12; \text{ solution}$$

$$\textcircled{32} \quad x < -7 \text{ or } x \geq 2; \text{ solution}$$

$$\textcircled{33} \quad x < -2 \text{ or } x \geq 4$$

$$\textcircled{36} \quad x > 7 \text{ or } x < 8$$

$$\textcircled{37} \quad x < -2 \text{ or } x \geq 1$$

$$\textcircled{38} \quad x > 3 \text{ or } x \leq 1$$

$$\textcircled{39} \quad x < -8 \text{ or } x \geq -2$$

$$\textcircled{40} \quad x \geq 3 \text{ or } x < -3$$

b.6. Solving

May. 03, 2007

Absolute-Value Equations

Review: **Distance from Zero!**

$$|5| = 5 \quad |-10| = 10$$

$$|x| = 7 \quad x = 7 \text{ or } x = -7$$

$$|ax+b| = c$$

where $a, b, +c$ are
#s + x is the
Variable

$$ax+b=c \text{ or } ax+b=-c$$

$$*|y| = -22 \quad \text{No Solutions}$$

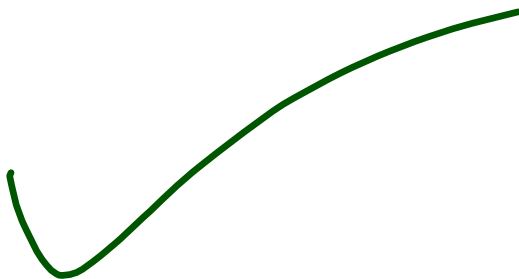
$$|x-2|=5$$

$$\begin{array}{r} x-2 = 5 \\ \hline x = 7 \end{array}$$

or
↓
or

$$\begin{array}{r} x-2 = -5 \\ \hline x = -3 \end{array}$$

Check:



$$|2x - 7| - 5 = 4$$

$$\begin{array}{r} |2x - 7| - 5 = 4 \\ +5 \quad +5 \\ \hline |2x - 7| = 9 \end{array}$$

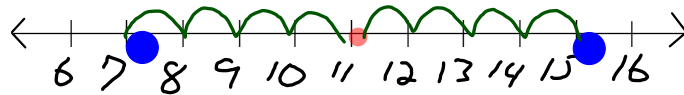
|| are the same as any grouping symbol & act as their own variables

$$\begin{array}{l} 2x - 7 = 9 \\ +7 \quad +7 \\ \hline 2x = 16 \\ \frac{2x}{2} = \frac{16}{2} \\ x = 8 \end{array} \quad \text{or} \quad \begin{array}{l} 2x - 7 = -9 \\ +7 \quad +7 \\ \hline 2x = -2 \\ \frac{2x}{2} = \frac{-2}{2} \\ x = -1 \end{array}$$

$x = 8 \quad \text{or} \quad x = -1$

Write an absolute-value eqn.
 that has 7 + 15 as its Solutions

1st Graph $\frac{(7+15)}{2} = \frac{22}{2} = 11$

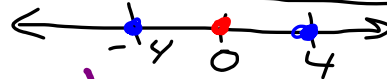


2nd find the Midpoint (Average)

3rd find the distance Avg. - Smaller = dist
 $11 - 7 = 4$

$|x| = 4 \quad x = 4 \text{ or } x = -4$

Formula



$|x - \text{Midpoint}| = \text{Distance}$

$|x - 11| = 4$

O.T.L.

① pg 358-359: ~~10-12(a)~~

~~16, 20, 23, 24, 26, 27,~~

32, 36, 39, 40, 41,

42, 43, 47, 48

Name
5-7-07
Pg 358-559
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