

Homework Review:

① $|x| = 6$

$x = 6$

$-(x) = 6$

$x = -6$

② $9 = |x + 5|$

$9 = x + 5$
 $-5 \quad -5$

$4 = x$

$9 = -(x + 5)$

$9 = -x - 5$
 $+5 \quad +5$

$14 = -x$

$-14 = x$ ✓

③ $|3x| + 2 = 8$

$-2 \quad -2$

$|3x| = 6$

$3x = 6$
 $\frac{3}{3} \quad \frac{3}{3}$

$x = 2$

$-(3x) = 6$
 $-3 \quad -3$

$x = -2$

$x = \{-2, 2\}$

$$\textcircled{4} \quad \frac{2|x|}{2} = \frac{18}{2}$$

$$|x| = 9$$

$$\boxed{x = 9} \quad \checkmark$$

$$-(x) = 9$$

$$\boxed{x = -9} \quad \checkmark$$

$$\textcircled{5} \quad \left| x + \frac{1}{2} \right| = 1$$

$$\begin{array}{c} \oplus \\ \downarrow \\ x + \frac{1}{2} = 1 \\ \text{LEFT} \quad \text{RIGHT} \end{array}$$

$$-\frac{1}{2} \quad -\frac{1}{2}$$

$$\boxed{x = \frac{1}{2}} \quad \checkmark$$

$$\ominus \quad -\left(x + \frac{1}{2}\right) = 1$$

$$\begin{array}{ccc} -x - \frac{1}{2} & = & 1 \\ + \frac{1}{2} & + \frac{1}{2} & \end{array}$$

$$-x = \frac{3}{2}$$

$$\boxed{x = -\frac{3}{2}} \quad \checkmark$$

$$\textcircled{6} \quad |x-3| - 6 = 2$$

$$\qquad\qquad +6 \quad +6$$

$$\swarrow \quad |x-3| \quad \searrow = 8$$

$$x-3 = 8$$

$$\quad +3 \quad +3$$

$$\boxed{x = 11}$$

✓

$$-(x-3) = 8$$

$$-x + 3 = 8$$

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

$$-x = 5$$

$$\boxed{x = -5}$$

✓

$$\textcircled{17} \quad |b-10| = 1$$

$$\swarrow \quad |b-10| \quad \searrow$$

$$b-10 = 1$$

$$\quad +10 \quad +10$$

$$\boxed{b = 11}$$

✓

$$-(b-10) = 1$$

$$-b + 10 = 1$$

$$\quad -10 \quad -10$$

$$-b = -9$$

$$\boxed{b = 9}$$

✓

$$\boxed{b = \{9, 11\}}$$

SET NOTATION

$$(12) \quad |6p| = 36$$

$\swarrow +$

$\searrow -$

$$\frac{6p}{6} = \frac{36}{6}$$

$$p = 6$$

$$-(6p) = 36$$

$$\frac{-6p}{-6} = \frac{36}{-6}$$

$$p = -6$$

$$(24) \quad |10|8+x| = 90$$