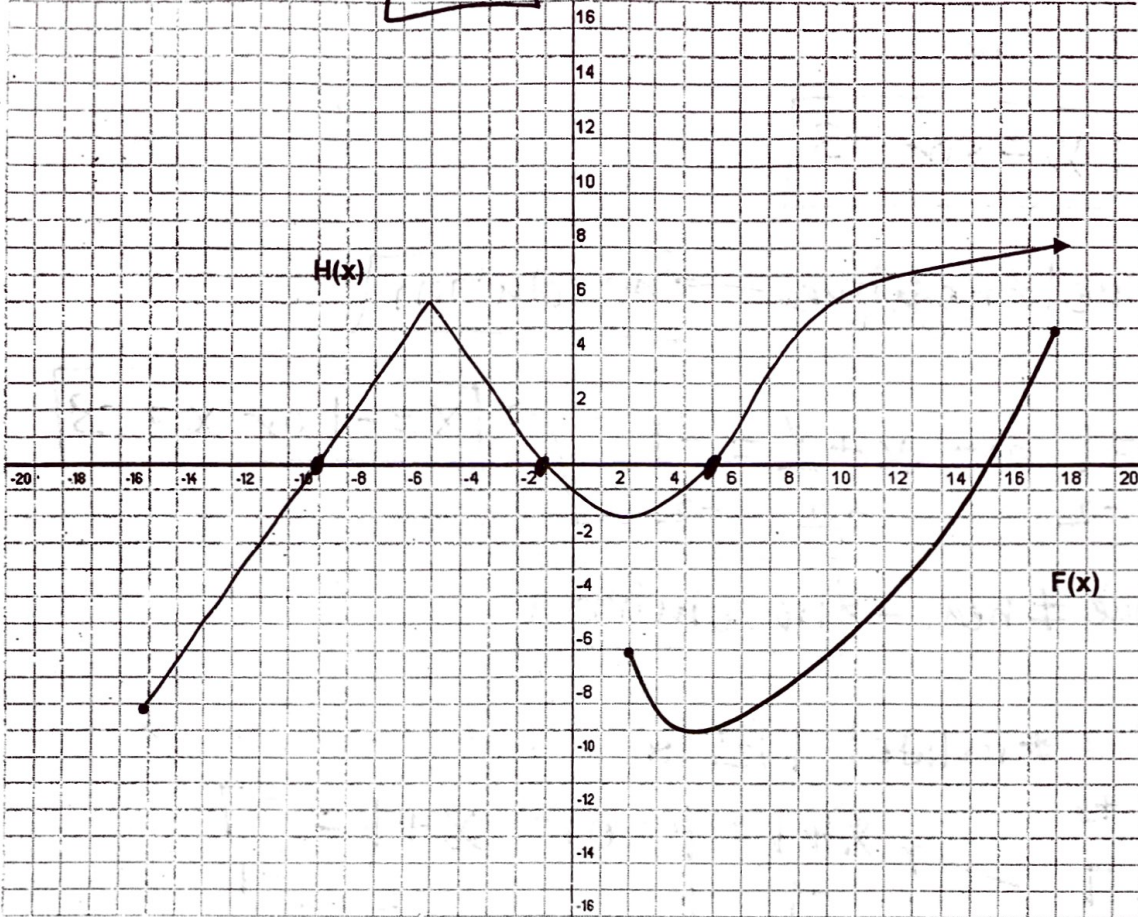


p. 8



1. State the domain of H(x). L, R $[-15, \infty)$
2. State the range of H(x). B, Top $[-9, \infty)$
3. $H(8) = 5$ $F(8) = -8$ $F(7) = -9$ $H(0) = -1$
4. $H(12) = 7$ $F(12) = -4$ $H(-15) = -9$ $F(17) = 5$
5. $H(0) = -1$ or $H(4) = -1$ or $H(-10) = -1$
 $F(2) = -7$ $F(9) = -7$

What does this tell us about H(x)? About F(x)?

$H(x)$ is not one-to-one / $F(x)$ is not one-to-one

6. For what x values will $H(x) = 0$? For what x values will $F(x) = 0$?

$x = -1, -9, 5$ / $x = 14.5$

These are called the x-intercepts or roots/zeros

7. $F(4) + H(-5) = -4$ $H(-13) \div F(14) = 6$

Solving Absolute Value Equations & Inequalities

Solve each of the following.

1. $|x| = 3$

$x = 3 \text{ or } -3$

2. $|x| = -4$

abs. value \neq negative \rightarrow no solution

3. $|x + 2| = 1$

$x + \frac{2}{-2} = 1$ or $x + \frac{2}{-2} = -1$ \rightarrow $x = -1 \text{ or } x = -3$

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

abs. value \neq neg. \rightarrow no solution

5. $|x + 1| - 3 = 4$ * isolate | | \leq *

$|x + 1| = 7$ \rightarrow $x + 1 = 7$ or $x + 1 = -7$

$x = 6 \text{ or } x = -8$

6. $|x - 6| + 5 = 2$

$|x - 6| = -3$ * no solution

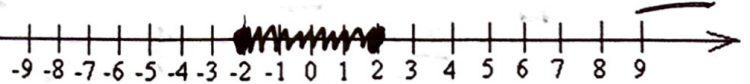
\leq	\geq	\bullet
$<$	$>$	\circ

$< \leq$ LESS THAN \rightarrow OVERLAP

7. On the number line, shade all values of x that make $|x| \leq 2$ true.

$|x| \leq 2$

$x \leq 2$ and $x \geq -2$



8. On the number line, shade all values of x that make $|x| \geq 2$ true.

$> \geq$ GREATER \rightarrow APART

$x \geq 2$ or $x \leq -2$



P. 12

①

$$|6n| \leq 18$$

isolate? ✓

AND vs. OR

SPLIT

SOLVE & GRAPH

$\frac{6n}{6} \leq \frac{18}{6}$	and	$\frac{6n}{6} \geq \frac{-18}{6}$
----------------------------------	-----	-----------------------------------

$n \leq 3$	and	$n \geq -3$
------------	-----	-------------

③

$$|m-2| < 8$$

isolate ✓

AND vs. OR

SPLIT

$\frac{m-2}{+2} < \frac{8}{+2}$	and	$\frac{m-2}{+2} > \frac{-8}{+2}$
---------------------------------	-----	----------------------------------

$m < 10$	and	$m > -6$
----------	-----	----------

⑤

$$|x| + 5 \geq 11$$

isolate? yes!

AND vs. OR

$$|x| \geq 6$$

SPLIT!

$x \geq 6$ OR $x \leq -6$

$>$	$>$	OR
$<$	$<$	AND

⑦ $|r| - 3 > 2$ isolate
 $+3 \quad +3$

$|r| > 5$ split

$r > 5$ OR $r < -5$

⑨ $|x-2| - 5 < -2$ isolate
 $+5 \quad +5$

$|x-2| < 3$ split!

$x - 2 < 3$ and $x - 2 > -3$
 $+2 \quad +2 \quad +2 \quad +2$

$x < 5$ and $x > -1$

⑪ $9|m-8| - 10 < 26$ isolate
 $+10 \quad +10$

$9|m-8| < 36$
 $\frac{9}{9} \quad \frac{36}{9}$

$|m-8| < 4$ SPLIT

$m - 8 < 4$ and $m - 8 > -4$
 $+8 \quad +8 \quad +8 \quad +8$

$m < 12$ and $m > 4$

$$(20) \quad 7 \left| \frac{n}{3} \right| - 9 < 12 \quad \text{isolate}$$

$+9 \quad +9$

$$\frac{7 \left| \frac{n}{3} \right| < 21}{7}$$

$$\left| \frac{n}{3} \right| < 3 \quad \text{SPLIT}$$

$$\cancel{3} \cdot \frac{n}{\cancel{3}} < 3 \cdot 3 \quad \text{and} \quad \cancel{3} \cdot \frac{n}{\cancel{3}} > -3 \cdot 3$$

$$n < 9 \quad \text{and} \quad n > -9$$

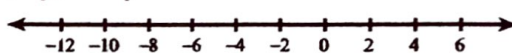
Absolute Value Inequalities

Solve each inequality and graph its solution.

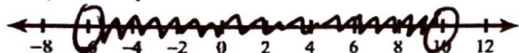
1) $|6n| \leq 18$



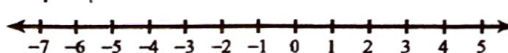
2) $|p + 4| \leq 8$



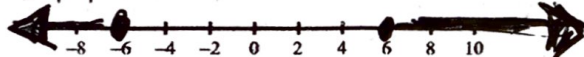
3) $|m - 2| < 8$



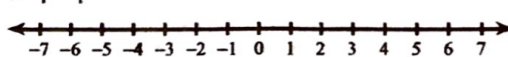
4) $|5x| \leq 10$



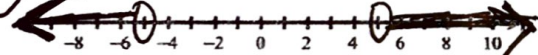
5) $|x| + 5 \geq 11$



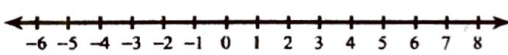
6) $|m| - 2 > 0$



7) $|r| - 3 > 2$



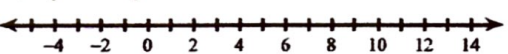
8) $|n| + 2 \geq 5$



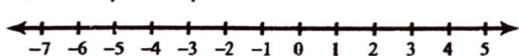
9) $|x - 2| - 5 < -2$



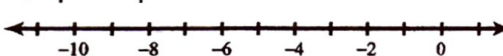
10) $|x - 4| - 3 < 5$



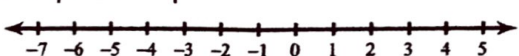
11) $1 + |1 + b| < 4$



12) $|v + 5| - 6 < -5$



13) $|10p - 4| < 34$



14) $|6 + 9x| \leq 24$

