

# 3-7

## Practice

Form K

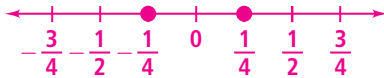
### Absolute Value Equations and Inequalities

Solve each equation. Graph and check your solutions.

1.  $|z| = \frac{1}{4}$   $z = \frac{1}{4}; z = -\frac{1}{4}$

$z = \square \frac{1}{4}$

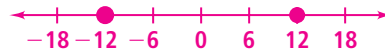
$z = \square \frac{1}{4}$



2.  $12 = |x|$   $x = 12; x = -12$

$x = \square 12$

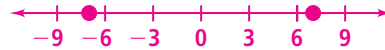
$x = \square 12$



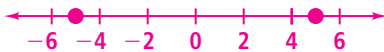
3.  $|n| + 1 = 4$   $n = 3; n = -3$



4.  $4 = |l| - 3$   $l = 7; l = -7$



5.  $7 = |j| + 2$   $j = 5; j = -5$



6.  $10 = |l| - 6$   $l = 16; l = -16$



Solve each equation. If there is no solution, write *no solution*.

7.  $|s - 6| = 3$   $s = 9$  or  $s = 3$

8.  $-2 = \left| m - \frac{1}{5} \right|$  **no solution**

## 3-7

## Practice (continued)

Form K

## Absolute Value Equations and Inequalities

Solve and graph each inequality.

9.  $|a| > 2$   $a > 2$  or  $a < -2$



10.  $|b| < 3$   $-3 < b < 3$



11.  $|c + 4| < 5$   $-9 < c < 1$



12.  $|y - 4| > 8$   $y > 12$  or  $y < -4$



13.  $|f - 1| \leq 6$   $-5 \leq f \leq 7$



14.  $|p + 3| \geq 10$   $p \geq 7$  or  $p \leq -13$

Solve each equation or inequality. If there is no solution, write *no solution*.

15.  $|f| - \frac{2}{5} < \frac{3}{10}$   $-\frac{7}{10} < f < \frac{7}{10}$

16.  $|w| + 1.2 > 0.8$  **no solution**

17. A particular toddler has an average nap of about two hours and sleeps for 13 hours at night. Nap time and night time sleep can each vary by about 15 minutes. What are the possible time lengths for the child's total nap and night time sleep? **14.5 hr to 15.5 hr**