

**Example 1**  
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Evaluate each expression if  $a = -2$ ,  $b = -3$ ,  $c = 2$ ,  $x = 2.1$ ,  $y = 3$ , and  $z = -4.2$ .

13.  $|2x + z| + 2y$       14.  $4a - |3b + 2c|$       15.  $-|5a + c| + |3y + 2z|$   
 16.  $-a + |2x - a|$       17.  $|y - 2z| - 3$       18.  $3|3b - 8c| - 3$   
 19.  $|2x - z| + 6b$       20.  $-3|z| + 2(a + y)$       21.  $-4|c - 3| + 2|z - a|$

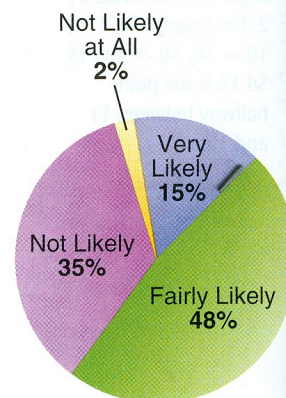
**Example 2**  
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Solve each equation. Then graph the solution set.

22.  $|n - 3| = 5$       23.  $|f + 10| = 1$       24.  $|v - 2| = -5$   
 25.  $|4t - 8| = 20$       26.  $|8w + 5| = 21$       27.  $|6y - 7| = -1$   
 28.  $|\frac{1}{2}x + 5| = -3$       29.  $|-2y + 6| = 6$       30.  $|\frac{3}{4}a - 3| = 9$

**Example 3**  
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31. **SURVEY** The circle graph at the right shows the results of a survey that asked, "How likely is it that you will be rich some day?" If the margin of error is  $\pm 4\%$ , what is the range of the percent of teens who say it is very likely that they will be rich?

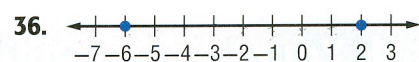
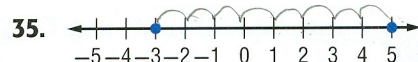
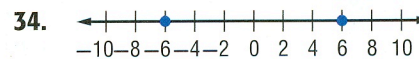
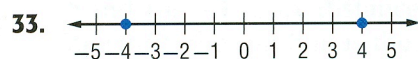


32. **CHEERLEADING** For competition, the cheerleading team is preparing a dance routine that must last 4 minutes, with a variation of  $\pm 5$  seconds.

- a. Find the least and greatest possible times for the routine in minutes and seconds.  
 b. Find the least and greatest possible times in seconds.

**Example 4**  
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Write an equation involving absolute value for each graph.



Solve each equation. Then graph the solution set.

37.  $|\frac{1}{2}b - 2| = 10$       38.  $|-4d + 6| = 12$       39.  $|5f - 3| = 12$   
 40.  $2|h| - 3 = 8$       41.  $4 - 3|q| = 10$       42.  $\frac{4}{|p|} + 12 = 14$

43. **TRACK** The  $4 \times 400$  relay is a race where 4 runners take turns running 400 meters, or one lap around the track.

- a. If a runner runs the first leg in 52 seconds plus or minus 2 seconds, write an equation to find the fastest and slowest times.  
 b. If the runners of the second and third legs run their laps in 53 seconds plus or minus 1 second, write an equation to find the fastest and slowest times.  
 c. Suppose the runner of the fourth leg is the fastest on the team. If he runs an average of 50.5 seconds plus or minus 1.5 seconds, what are the team's fastest and slowest times?