

Name

3-10

Lesson Master

Questions on SPUR Objectives
See Student Edition pages 216–219 for objectives.

SKILLS

Objectives A and B



In 1–4, find all real solutions to the equation.

1. $|a + 12| = 4$ _____
2. $|7b + 36| = 1$ _____
3. $3|m - 4| = 6 - 9m$ _____
4. $|2.5p - 17| = -12$ _____

In 5–8, find all real solutions to the inequality.

5. $|w + 9| < 10$ _____
6. $|6r^2 + r| < 0$ _____
7. $\left|\frac{3}{4}n + 6\right| > 2n + 3$ _____
8. $|2y^2 - 7| > 25$ _____

In 9 and 10, solve the inequality and graph the solutions on the number line provided.

9. $2|x - 7| < 6x + 16$ _____ 
10. $31 < |2c + 11|$ _____ 

USES

Objectives I and K

11. In the sport of tenpin bowling, there are specifications for the ball, pins, and lane.

a. The ball must be 26.853 inches in circumference, with a tolerance of 0.149 inches. What are the maximum and minimum possible circumferences for a bowling ball?

b. Each pin must weigh 3 pounds 8 ounces, with a tolerance of 3 ounces. Describe the maximum and minimum possible weights w with an absolute value equation.

12. At the right is a tolerance chart that one company uses for acceptable lengths of PVC heat shrinkable tubing. Describe the range of acceptable lengths ℓ each tube with an absolute value inequality.

a. 4.5-inch tube _____

b. 79-inch tube _____

Length	Tolerance	Length	Tolerance
$\frac{1}{4}$ " to under 4"	± 0.063 "	28" to under 36"	± 0.750 "
2" to under 4"	± 0.125 "	36" to under 60"	± 1.250 "
4" to under 6"	± 0.180 "	60" to under 75"	± 1.500 "
6" to under 12"	± 0.250 "	75" to under 80"	± 1.750 "
12" to under 18"	± 0.450 "	80" to under 100"	± 2.000 "
18" to under 28"	± 0.625 "		