**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_\_**

**U10 CW #3** *Solving Single Variable Absolute Value Equations*

What does this symbol mean? $\left|x\right|$

What can *x* represent?

**Directions:** Solve each problem. Show all steps.

**1.** What are the solutions for $\left|x\right|=3$? Explain.

**2.** What are the solutions for $\left|x-2\right|=3$? Explain.

**Directions:** Solve each absolute value equation. **SHOW ALL STEPS!!!** Check your solution.

|  |  |
| --- | --- |
| 3. $ \left|\frac{k}{9}\right|=1$ | 4. $ \left|6x\right|=18$ |
| 5. $ \left|v-1\right|=7$ | 6. $\left|5+x\right|=8$ |

|  |  |
| --- | --- |
| 7. $\left|10n+10\right|=-70$ | 8. $\left|3+10x\right|=37$ |
| 9. $\left|-9-2m\right|=15$ | 10. $\left|-6n-6\right|=24$ |
| 11. $\left|9+6m\right|=39$ | 12. $\left|-8+7x\right|= 6$ |
| 13. $ \left|7+10m\right|= -50$ | 14. $ \left|x- 3\right|= 16$ |
| 15. Before the start of a professional basketball game, a basketball must be inflated to an air pressure of 8 pounds per square inch (psi) with an absolute error of 0.5 psi. Find the minimum and maximum acceptable air pressures for the basketball. |