

Abs. Value Equations WS

Solve each equation.

1) $\left|\frac{x}{5}\right| - 9 = -9$

2) $\frac{|6r|}{6} = 3$

3) $\left|\frac{n}{2}\right| - 8 = -6$

4) $10 - 5|b + 4| = -5$

5) $-10|v + 10| - 6 = -86$

6) $-5|x - 4| - 7 = -52$

7) $8|n - 10| - 9 = 95$

8) $1 - 9|a - 3| = 82$

$$9) 9|8k - 2| - 5 = 49$$

$$10) 10|5 - 2p| - 3 = -3$$

$$11) 9 + |-5 - 3n| = 25$$

$$12) 3|-9x - 3| - 5 = 67$$

13) Write and solve an absolute value equation that represents the two numbers x that are 2 units from 7 on a number line. Graph the solutions.

14) A thermostat is set so that the temperature in a laboratory freezer stays within 2.5°F of 2°F . Write and solve an absolute value equation to find the maximum and minimum temperatures in the freezer.

Abs. Value Equations WS

Solve each equation.

1) $\left|\frac{x}{5}\right| - 9 = -9$

 $\{0\}$

2) $\frac{|6r|}{6} = 3$

 $\{3, -3\}$

3) $\left|\frac{n}{2}\right| - 8 = -6$

 $\{4, -4\}$

4) $10 - 5|b + 4| = -5$

 $\{-1, -7\}$

5) $-10|v + 10| - 6 = -86$

 $\{-2, -18\}$

6) $-5|x - 4| - 7 = -52$

 $\{13, -5\}$

7) $8|n - 10| - 9 = 95$

 $\{23, -3\}$

8) $1 - 9|a - 3| = 82$

No solution.

$$9) 9|8k - 2| - 5 = 49$$

$$\left\{1, -\frac{1}{2}\right\}$$

$$10) 10|5 - 2p| - 3 = -3$$

$$\left\{\frac{5}{2}\right\}$$

$$11) 9 + |-5 - 3n| = 25$$

$$\left\{-7, \frac{11}{3}\right\}$$

$$12) 3|-9x - 3| - 5 = 67$$

$$\left\{-3, \frac{7}{3}\right\}$$

13) Write and solve an absolute value equation that represents the two numbers x that are 2 units from 7 on a number line. Graph the solutions.

$$|x - 7| = 2; 5, 9$$

14) A thermostat is set so that the temperature in a laboratory freezer stays within 2.5°F of 2°F . Write and solve an absolute value equation to find the maximum and minimum temperatures in the freezer.

$$|x - 2| = 2.5; -0.5^{\circ}\text{F}, 4.5^{\circ}\text{F}$$