Name: _____   **Score:** _____

Solve the Absolute Value Equation

Solve each equation.

1) $3\lvert x - 2 \rvert + 5 = 7$ Solution =	2) $4\lvert -x + 3 \rvert - 5 = -1$ Solution =	3) $2\left\lvert \frac{x}{3} + 1 \right\rvert + \frac{5}{2} = 2$ Solution =
4) $5 - \left\lvert \frac{x}{2} + 3 \right\rvert = -1$ Solution =	5) $3 + \frac{\lvert x - 3 \rvert}{4} = 8$ Solution =	6) $\left\lvert x + \frac{1}{2} \right\rvert + \frac{1}{4} = 2$ Solution =
7) $\frac{1}{3\lvert 4x - 1 \rvert} + \frac{1}{3} = 2$ Solution =	8) $-6\lvert x - 1 \rvert = -4$ Solution =	9) $10 - 3\left\lvert \frac{x}{2} \right\rvert = 4$ Solution =
10) $3\lvert 2x - 1 \rvert - 6 = 8$ Solution =	11) $5\left\lvert \frac{x-2}{2} \right\rvert + 2 = 7$ Solution =	12) $7\lvert 1 - 2x \rvert + 4 = 8$ Solution =
13) $6 - \frac{\lvert 3 - x \rvert}{2} = -3$ Solution =	14) $-\lvert x + 5 \rvert + 7 = -6$ Solution =	15) $2 - \left\lvert \frac{x}{8} + 3 \right\rvert = 2$ Solution =
16) $2\lvert x - 3 \rvert + 5 = 13$ Solution =	17) $7\lvert -x - 2 \rvert + 3 = 5$ Solution =	18) $5 - \left\lvert \frac{x}{2} - 1 \right\rvert = -3$ Solution =

Name: _____   **Score:** _____

Answers:

1) $3\lvert x - 2 \rvert + 5 = 7$ Solution = $\left\{ \frac{4}{3},\ \frac{8}{3} \right\}$	2) $4\lvert -x + 3 \rvert - 5 = -1$ Solution = $\{ 2,\ 4 \}$	3) $2\left\lvert \frac{x}{3} + 1 \right\rvert + \frac{5}{2} = 2$ Solution = $\left\{ -\frac{15}{4},\ -\frac{9}{4} \right\}$
4) $5 - \left\lvert \frac{x}{2} + 3 \right\rvert = -1$ Solution = $\{ -18,\ 6 \}$	5) $3 + \frac{\lvert x - 3 \rvert}{4} = 8$ Solution = $\{ -17,\ 23 \}$	6) $\left\lvert x + \frac{1}{2} \right\rvert + \frac{1}{4} = 2$ Solution = $\left\{ -\frac{9}{4},\ \frac{5}{4} \right\}$
7) $\frac{1}{3\lvert 4x - 1 \rvert} + \frac{1}{3} = 2$ Solution = $\left\{ -\frac{1}{5},\ \frac{3}{10} \right\}$	8) $-6\lvert x - 1 \rvert = -4$ Solution = $\left\{ \frac{1}{3},\ \frac{5}{3} \right\}$	9) $10 - 3\left\lvert \frac{x}{2} \right\rvert = 4$ Solution = $\{ -4,\ 4 \}$
10) $3\lvert 2x - 1 \rvert - 6 = 8$ Solution = $\left\{ -\frac{11}{6},\ \frac{17}{6} \right\}$	11) $5\left\lvert \frac{x-2}{2} \right\rvert + 2 = 7$ Solution = $\{ 0,\ 4 \}$	12) $7\lvert 1 - 2x \rvert + 4 = 8$ Solution = $\left\{ \frac{3}{14},\ \frac{11}{14} \right\}$
13) $6 - \frac{\lvert 3 - x \rvert}{2} = -3$ Solution = $\{ -15,\ 21 \}$	14) $-\lvert x + 5 \rvert + 7 = -6$ Solution = $\{ -18,\ 8 \}$	15) $2 - \left\lvert \frac{x}{8} + 3 \right\rvert = 2$ Solution = $\{ -24 \}$
16) $2\lvert x - 3 \rvert + 5 = 13$ Solution = $\{ -1,\ 7 \}$	17) $7\lvert -x - 2 \rvert + 3 = 5$ Solution = $\left\{ -\frac{16}{7},\ -\frac{12}{7} \right\}$	18) $5 - \left\lvert \frac{x}{2} - 1 \right\rvert = -3$ Solution = $\{ -14,\ 18 \}$