Name: _____ Score:

Solve the Absolute Value Equation

T5MS1

Solve each equation.

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

Name: _____ **Answer key** Score:

Solve the Absolute Value Equation

T5MS1

1) $\lvert x-1\rvert = \lvert 3x-5\rvert$ Solution = $\{\frac{3}{2},\ 2\}$	2) $\left\lvert \frac{x}{2}+1\right\rvert = \left\lvert 5x+\frac{1}{2}\right\rvert$ Solution = $\{-\frac{3}{11},\ \frac{1}{9}\}$	3) $-\lvert -x+4\rvert = -\lvert 2-x\rvert$ Solution = { 3 }
4) $\left\lvert 2x+\frac{1}{4}\right\rvert = \left\lvert x+\frac{1}{2}\right\rvert$ Solution = $\{-\frac{1}{4},$	5) $\lvert -3x+4\rvert = \lvert x+7\rvert$	6) $3\left\lvert \frac{x}{5}+2\right\rvert = \frac{1}{2}\lvert x-2\rvert$ $= \{-70, -\frac{50}{11}\}$
7) $\lvert 3x-1\rvert = \lvert 2$ Solution = $\{-3,\ 1$		$1\rvert = \lvert 3+x\rvert$ $= \{-1\}$
10) $\left\lvert \frac{x}{4}-3\right\rvert = \lvert x$ Solution = $\{\frac{20}{3},\ \frac{4}{}$		$-1\rvert = \lvert 3x-4\rvert$ $= \{-\frac{3}{5},\ \frac{5}{11}\}$
13) $\left\lvert \frac{2x-1}{2}\right\rvert = \lvert 5-$ Solution = $\{\frac{11}{8},\ \frac{9}{4}\}$	Solution = $\{-\frac{3}{2}\}$	$\left\rvert = \left\lvert \frac{4x+1}{5}\right\rvert\right.$ Solution = $\{\frac{1}{6},\ \frac{13}{18}\}$
16) $\lvert 3x-2\rvert = \lvert 2x+1\rvert$ Solution = $\{\frac{1}{5},\ 3\}$	17) $5\left\lvert \frac{x}{5}+1\right\rvert = 8\lvert x-1\rvert$ Solution = $\{\frac{13}{7},\ \frac{1}{3}\}$	18) $\lvert 9x+2\rvert = \left\lvert \frac{x+7}{3}\right\rvert$ Solution = $\{-\frac{13}{28},\ \frac{1}{26}\}$