Algebra 1
1.4 Exit Ticket

Name: Key
Date: _____ Hour: _____

I can solve absolute value equations.

1) $|q-8|+3=3$

$-3 \quad -3$

$|q-8| = 0$ zero-1 soln

$q-8=0$

$+8 \quad +8$

$\boxed{q=8}$

2) $-3\left|1-\frac{2}{3}v\right| = -9$

$-3 \quad -3$

$\left|1-\frac{2}{3}v\right| = 3$ pos-2 solns

$1-\frac{2}{3}v=3$ $\qquad$ $1-\frac{2}{3}v=-3$

$-1 \quad -1$ $\qquad$ $-1 \quad -1$

$-\frac{3}{2}\cdot-\frac{2}{3}v=2\cdot-\frac{3}{2}$ $\qquad$ $-\frac{3}{2}\cdot-\frac{2}{3}v=-4\cdot-\frac{3}{2}$

$\boxed{v=-3}$ $\qquad$ $\boxed{v=6}$

I can solve equations involving two absolute values.

1) $|4n-15|=|n|$

$4n-15=n$ $\qquad$ $4n-15=-n$

$-n \quad -n$ $\qquad$ $+n \quad +n$

$3n-15=0$ $\qquad$ $5n-15=0$

$+15 \quad +15$ $\qquad$ $+15 \quad +15$

$\frac{3n}{3}=\frac{15}{3}$ $\qquad$ $\frac{5n}{5}=\frac{15}{5}$

$\boxed{n=5}$ $\qquad$ $\boxed{n=3}$

2) $4|p-3|=|2p+8|$

$4(p-3)=2p+8$ $\qquad$ $4(p-3)=-(2p+8)$

$4p-12=2p+8$ $\qquad$ $4p-12=-2p-8$

$-2p \quad -2p$ $\qquad$ $+2p \quad +2p$

$2p-12=8$ $\qquad$ $6p-12=-8$

$+12 \quad +12$ $\qquad$ $+12 \quad +12$

$\frac{2p}{2}=\frac{20}{2}$ $\qquad$ $\frac{6p}{6}=\frac{4}{6}$

$\boxed{p=10}$ $\qquad$ $\boxed{p=\frac{2}{3}}$

I can identify special solutions of absolute value equations.

1) $|3h+1|=7h$

$3h+1=7h$ $\qquad$ $3h+1=-7h$

$-3h \quad -3h$ $\qquad$ $-3h \quad -3h$

$\frac{1}{4}=\frac{4h}{4}$ $\qquad$ $\frac{1}{-10}=\frac{-10h}{-10}$

$\boxed{1/4=h}$ $\qquad$ $h=-1/10$

$|3(1/4)+1| = 1.75$ ✓ $\quad 7(1/4)=1.75$ ✓

$|3(-\frac{1}{10})+1| = 0.7$ $\quad 7(-\frac{1}{10})=-0.7$

2) $|f-6|=|f+8|$

$f-6=f+8$ $\qquad$ $f-6=-(f+8)$

$-f \quad -f$ $\qquad$ $f-6=-f-8$

$-6=8$ $\qquad$ $+f \quad +f$

no solution $\qquad$ $2f-6=-8$

$+6 \quad +6$

$\frac{2f}{2}=\frac{-2}{2}$

$\boxed{f=-1}$

$|-1-6| = 7$ ✓ $\quad |-1+8| = 7$ ✓

Algebra 1
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I can rewrite literal equations.

Solve the literal equation for the variable noted

1) $3y - 15x = 12; y$

$+15x \quad +15x$

$\frac{3y}{3} = \frac{15x}{3} + \frac{12}{3}$

$\boxed{y = 5x + 4}$

2) $b = 3x + 9xy; x$

$\frac{b}{3+9y} = \frac{x(3+9y)}{3+9y}$

$\boxed{\frac{b}{3+9y} = x}$

I can rewrite and use formulas for area.

Solve the formula for the indicated variable

1) $P = a + b + c; b$

Perimeter of a triangle

$P = a + b + c$

$-a \quad -a$

$P - a = b + c$

$-c \quad -c$

$\boxed{P - a - c = b}$

2) $V = lwh; w$

Volume of a box

$\frac{V}{lh} = \frac{lwh}{lh}$

$\boxed{\frac{V}{lh} = w}$

I can rewrite and use other common formulas.

1) You deposit $800 in an account that earns simple interest at an annual rate of 5%. How long must you leave the money in the account to earn $100 in interest? (time is in years)

$I = Prt$

$\frac{I}{Pr} = \frac{Prt}{Pr}$

$\frac{I}{Pr} = t = \frac{100}{800(0.05)} = \boxed{2.5 \text{ years}}$