Algebra RH - ANSWER KEY
Practice for Equations Quiz

| 1. $\begin{aligned} 5 x+3+2 x-6 x & =4 x+12 \\ x+3 & =4 x+12 \\ 3 & =3 x+12 \\ -9 & =3 x \\ -3 & =x \end{aligned}$ | $\text { 2. } \begin{aligned} \frac{3-2 x}{2} & =-15 \\ 3-2 x & =-30 \\ -2 x & =-33 \\ x & =\frac{33}{2} \end{aligned}$ | $\text { 3. } \begin{aligned} 2(x+4) & =\frac{1}{4}(8 x+24) \\ 2 x+8 & =2 x+4 \\ 8 & \neq 4 \end{aligned}$ <br> $x$ has no solution |
| :---: | :---: | :---: |
| 4. $\begin{aligned} -3-(x-4)+5 x & =-5 \\ -3-x+4+5 x & =-5 \\ 1+4 x & =-5 \\ 4 x & =-6 \\ x & =-\frac{3}{2} \end{aligned}$ | 5. $\begin{aligned} 0.03 x+1 & =0.4 \\ 100(0.03 x)+100(1) & =100(0.4) \\ 3 x+100 & =40 \\ 3 x & =-60 \\ x & =-20 \end{aligned}$ | 6. $\begin{aligned} 3 x-12+3 & =-2 x+5 x-9 \\ 3 x-9 & =3 x-9 \end{aligned}$ <br> $x=$ all real numbers (identity equation) |
| $\text { 7. } \begin{aligned} 0.12 x+0.09(2400-x) & =261 \\ 100(0.12 x)+100[0.09(2400-x)] & =100(261) \\ 12 x+9(2400-x) & =26100 \\ 12 x+21600-9 x & =26100 \\ 3 x+21600 & =26100 \\ 3 x & =4500 \\ x & =1500 \end{aligned}$ | $\text { 8. } \begin{aligned} \frac{3 x+5}{2} & =\frac{9-x}{-6} \\ -6(3 x+5) & =2(9-x) \\ -18 x-30 & =18-2 x \\ -16 x-30 & =18 \\ -16 x & =48 \\ x & =-3 \end{aligned}$ | 9. $\begin{array}{rlrl}  & \|x-4\|=3 \\ x-4 & =3 & x-4 & =-3 \\ x & =7 & x & =1 \end{array}$ |
| $\begin{aligned} 10 . \quad 0.1 x-0.02(x+5) & =0.22 \\ 100(0.1 x)-100[0.02(x+5)] & =100(0.22) \\ 10 x-2(x+5) & =22 \\ 10 x-2 x-10 & =22 \\ 8 x-10 & =22 \\ 8 x & =32 \\ x & =4 \end{aligned}$ | $\text { 11. } \left.\begin{array}{rlr} \|2 x+2\|-3=9 \\ & \|2 x+2\|=12 \\ 2 x+2 & =12 & 2 x+2 \\ 2 x & =-12 \\ 2 x & 2 x & =-14 \\ x & =5 & x \end{array}\right)$ | $\text { 12. } \begin{aligned} \frac{x}{6}-\frac{2 x}{4} & =-6 \\ 12\left(\frac{x}{6}\right)-12\left(\frac{2 x}{4}\right) & =12(-6) \\ 2 x-6 x & =-72 \\ -4 x & =-72 \\ x & =18 \end{aligned}$ |
|  | $\text { 14. } \begin{aligned} 1-\frac{2 x+5}{3} & =\frac{-x}{2} \\ 6(1)-6\left(\frac{2 x+5}{3}\right) & =6\left(\frac{-x}{2}\right) \\ 6-2(2 x+5) & =-3 x \\ 6-4 x-10 & =-3 x \\ -4-4 x & =-3 x \\ -4 & =x \end{aligned}$ | 15. $\begin{gathered} 2-4(x+1)=\frac{1}{2}(-2-8 x)-1 \\ 2-4 x-4=-1-4 x-1 \\ -4 x-2=-4 x-2 \\ x=\text { all real numbers } \\ \text { (identity equation) } \end{gathered}$ |

