Unit 0 Back to Basics Review
Always Sometimes Never Activity

Name: $\qquad$
Date $\qquad$ Hour $\qquad$
$x=x$ and $0=0$ are examples of equations that are a/ways true. Equations that are always true are also called an identity.
$1=2$ is an equation that is never true (always false). Equations that are never true have no solution.
$x^{2}=4$ and $x+1=3$ both show equations that are sometimes true.
Example of when $\mathrm{x}+1=3$ is true: $\qquad$
Counterexample of when $\mathrm{x}+1=3$ is not true: $\qquad$
Directions: Sort the equations on the back of this sheet into the categories 'always true', 'sometimes true', or 'never true' (make sure everyone in your group agrees). Write down the letter of each equation in the correct category. Show all work on a separate sheet of paper. If you choose sometimes true, give an example of when the equation is true and a counterexample to show when it is not true.

| Always True | Sometimes True | Never True |
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Card Sort: Sometimes, Always, Never Equations and Identities

| A) $x-6=6-x$ | $x+6=y+6$ |
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| $\frac{x}{6}=\frac{6}{x}$ | $2(x-3)=2 x-3$ |
| 6 $6+2 x=8 x$ | $\frac{x+6}{2}=x+3$ |
| $0=0.82 x+0.18 x-x$ | $\frac{3}{5} x-\frac{1}{10} x=\frac{1}{2} x+5$ |
| $\square$ | $\square$ |
| $2(x+3)=2 x+6$ | $12-(2 x+5)=-2 x+7$ |
| к | $\square$ |
| $8+3 x=2 x+8$ | $x-7=-(7-x)$ |
| M | N |
| $x-4 x=4 x+3-7 x$ | $18 x-5=3(5 x-1)$ |

