Solving equations with variables on both sides
$\qquad$

1. Solve these equations:

| Expression | Solution |
| :---: | :---: |
| $2 x+6=8 x$ |  |
| $1 / 2 x=15-3 x$ |  |
| $3 z-7=6 z+2$ |  |
| $16 a=5 a+33$ |  |
| $2(y+3)=y+8$ |  |
| $.25 x+8.5=x+1$ |  |
| $19 v=4 v+45$ |  |
| $8-x=x+2$ |  |
| $12 s+5-3=4 s$ |  |


| Expression | Solution |
| :---: | :---: |
| $5 w+18=4 w+5$ |  |
| $11 x+11=2 x+38$ |  |
| $x-16=5 x+16$ |  |
| $27 x+1=16 x-10$ |  |
| $4 z-8=\mathbf{z + 4}$ |  |
| $18-2 z=6-4 z$ |  |
| $15 x+5=30 x-5$ |  |
| $18 z-5=8 z+5$ |  |
| $4 x+x=10-x$ |  |

2. The perimeter and the area of this shape are equal. What is the value of $x$ ?

$\square$
3. The perimeter of the larger triangle is $\mathbf{1 5 0 \%}$ of the perimeter of the smaller triangle. What is the value of $x$ ?
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2x

4. These circles are identical. What is the value of $\mathbf{x}$ ?

$\square$
