## Unit 3 Lesson 8: Reasoning about Solving Equations (Part 2)

### 1 Equivalent to $2(x+3)$ (Warm up)

#### Student Task Statement

Select **all** the expressions equivalent to $2(x+3)$.

1. $2⋅(x+3)$
2. $(x+3)2$
3. $2⋅x+2⋅3$
4. $2⋅x+3$
5. $(2⋅x)+3$
6. $(2+x)3$

### 2 Either Or

#### Student Task Statement

1. Explain why either of these equations could represent this hanger:
* 
* $14=2(x+3)$ or $14=2x+6$
1. Find the weight of one circle. Be prepared to explain your reasoning.

#### Activity Synthesis





### 3 Use Hangers to Understand Equation Solving, Again

#### Student Task Statement

Here are some balanced hangers. Each piece is labeled with its weight.



For each diagram:

1. Assign one of these equations to each hanger:
* $2(x+5)=16$
* $3(y+200)=3​,000$
* $20.8=4(z+1.1)$
* $\frac{20}{3}=2\left(w+\frac{2}{3}\right)$
1. Explain how to figure out the weight of a piece labeled with a letter by reasoning about the diagram.
2. Explain how to figure out the weight of a piece labeled with a letter by reasoning about the equation.



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