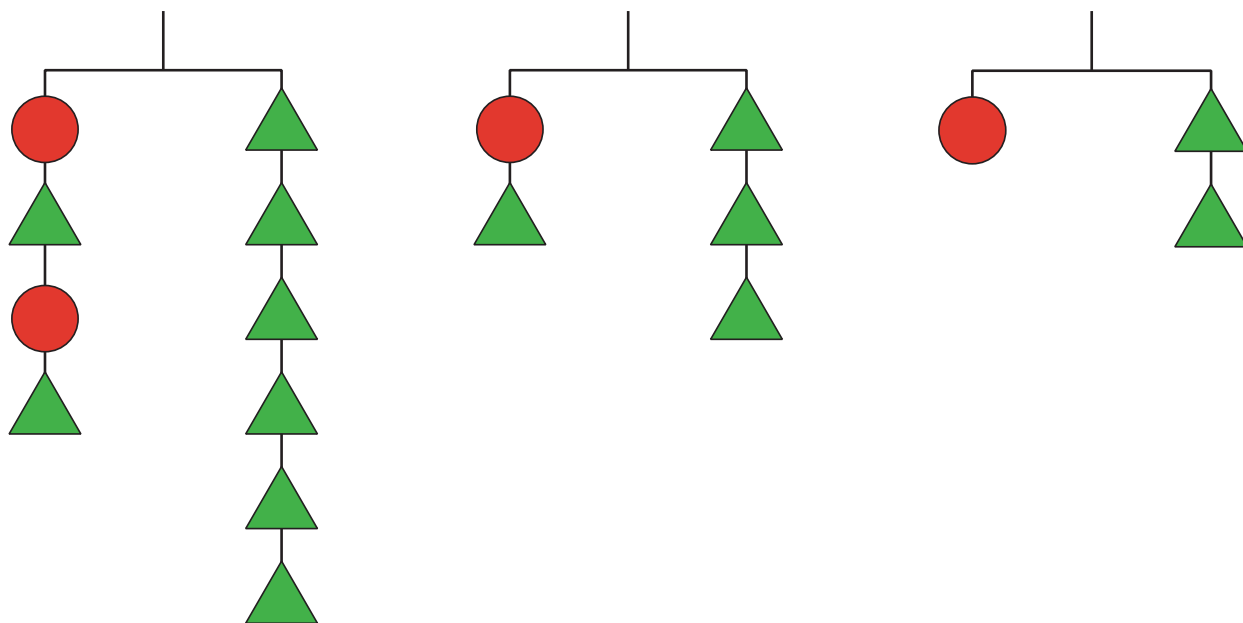


# Lesson 6: Equality Diagrams

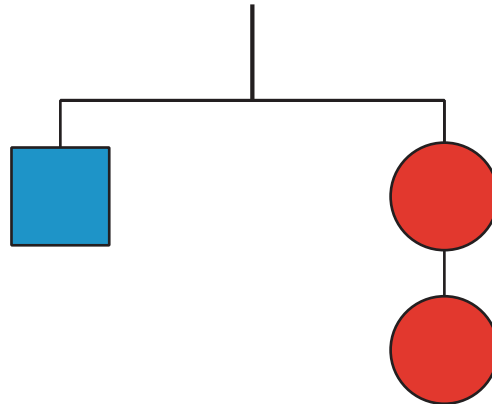
Let's use hanger diagrams to understand equivalent equations.

## 6.1: Notice and Wonder: Solving Equations

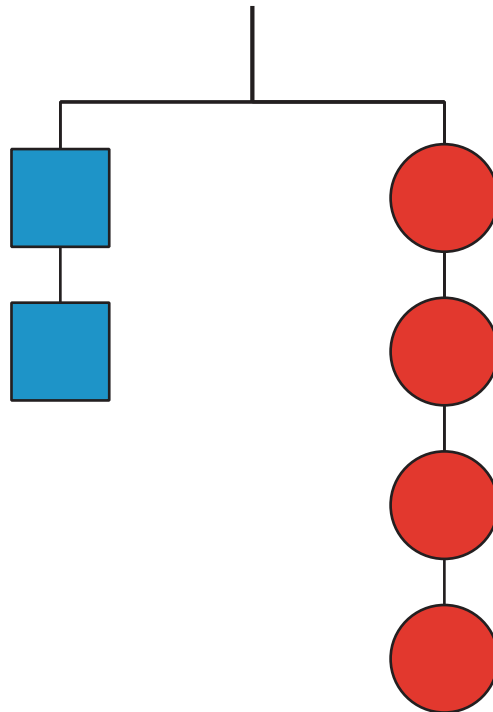
What do you notice? What do you wonder?



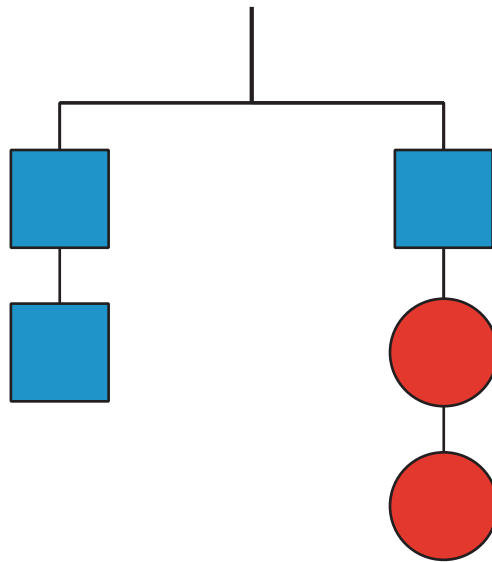
## 6.2: Hanger Diagrams



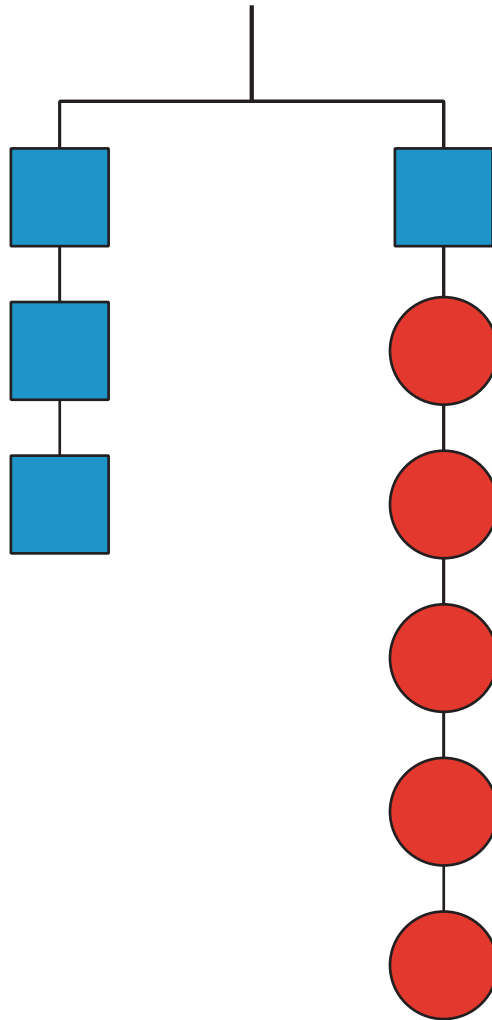
1. The hanger with 1 square and 2 circles is in balance.  
Which of these should also be in balance? Explain your reasoning.



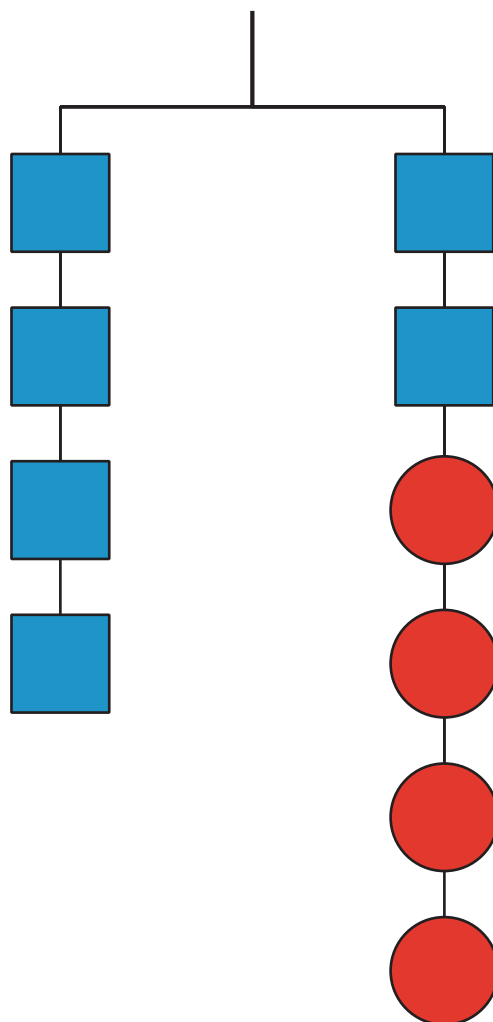
a.



b.

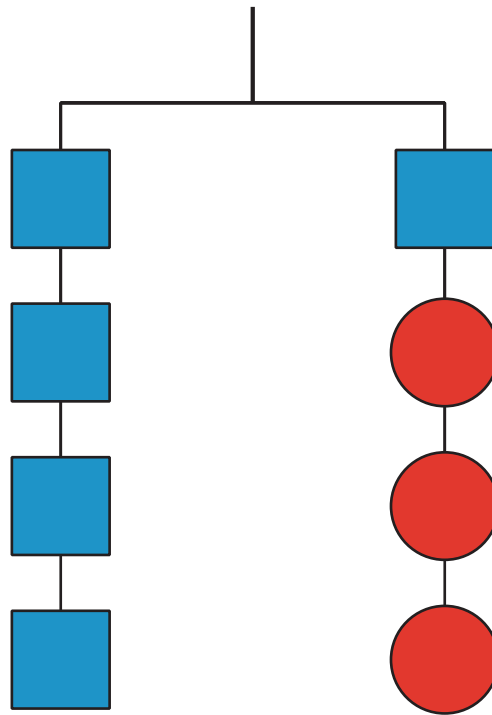


c.

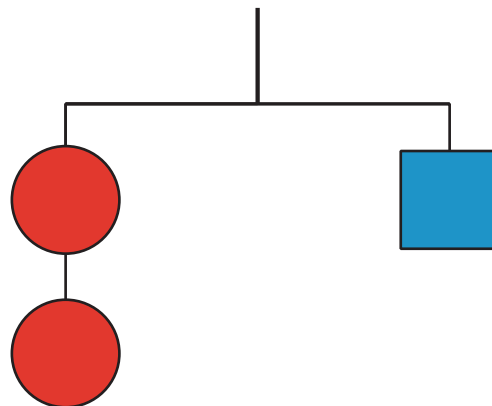


d.

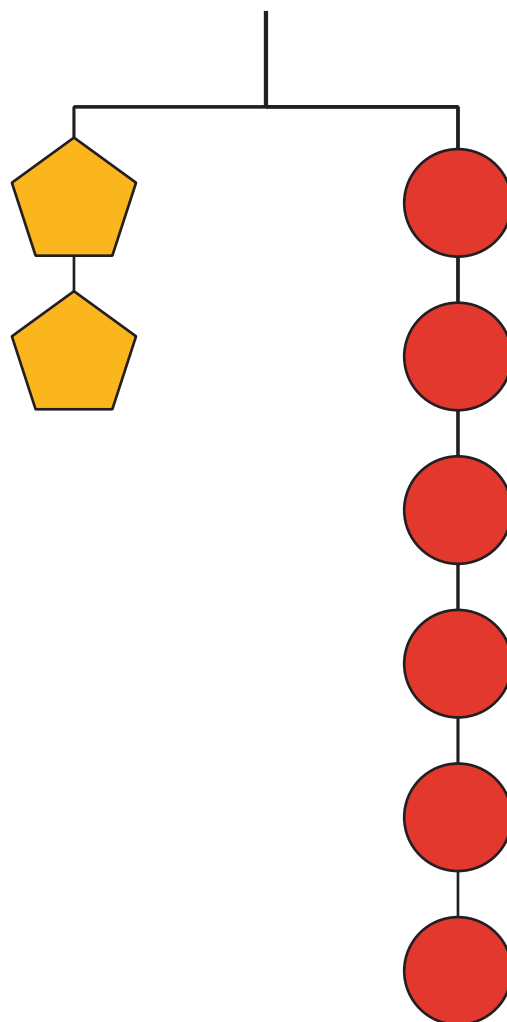
e.



f.

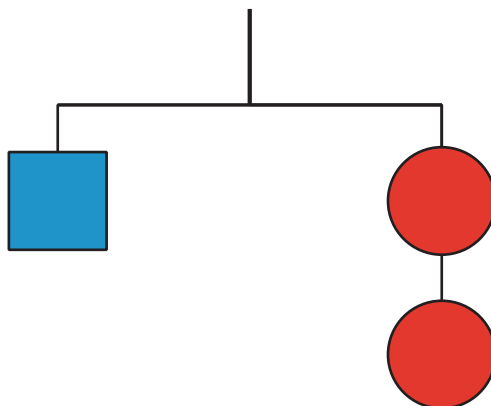


2. This hanger containing 2 pentagons and 6 circles is in balance. Use the hanger diagram to create two additional hangers that would be in balance.



## 6.3: Diagrams and Equations

In the previous activity, each square weighs 10 pounds and each circle weighs  $x$  pounds.



So, this diagram could be represented by the equation  $10 = 2x$ .

1. Use each of the 6 hanger diagrams containing squares and circles from the previous activity to write an equation that represents the weights on the hanger.
  - a.
  - b.
  - c.
  - d.
  - e.
  - f.
  
2. Solve each equation.
  - a.
  - b.
  - c.
  - d.
  - e.
  - f.
  
3. Compare the solutions to the equations with the answers from the previous activity. What do you notice?