Lesson C4: Tricky Hangers

Warm Up

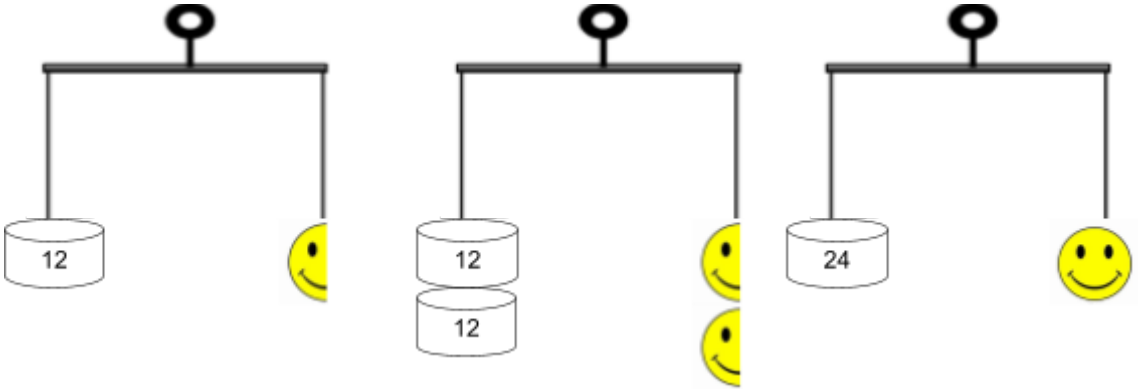
Inverse operations undo each other.

Addition and _____ are inverse operations.

_____ and division are inverse operations.

Example

1. For the hanger model and its code, describe what happens in each step. (Notice this is 12 is the same as **half** a smiley face). We are trying to find the weight of one whole smiley face.



Solution: _____

2. How is this hanger model different from prior hanger models and equations we have seen?

3. The equation for the original hanger is $12 = \frac{1}{2}s$. Let's solve this using inverse equations:

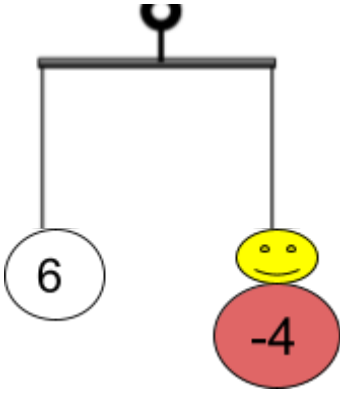
$12 = \frac{1}{2}s$	original
$24 = s$	double both sides (also known as _____ by 2)

Check:

$12 = \frac{1}{2}(24)$	multiply 24 and one half
$12 = 12$	notice the equation is balanced

4. Set up a hanger model for the equation $\frac{1}{4}c = 5$. Show your work to solve for c by finding out how much one c weighs.

5. What do you notice about the hanger below?



_____

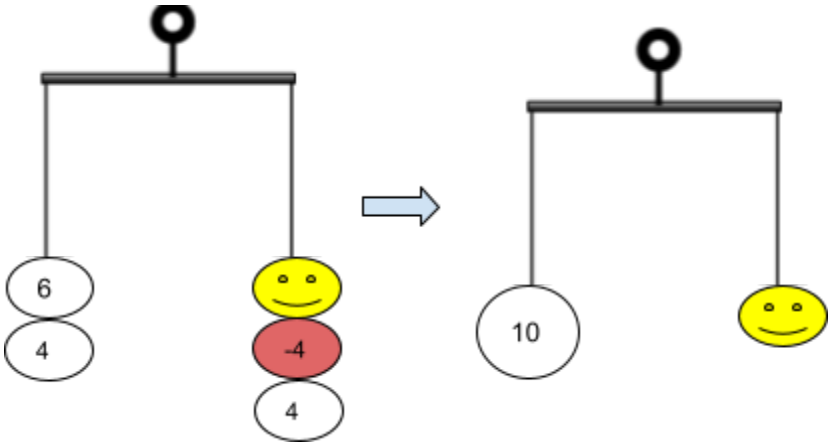
_____

_____

_____

_____

6. Describe what is happening in each step.



7. The equation for the hanger above is $6 = s - 4$. Let's solve using inverse equations:

$6 = s - 4$	original
$6 = s - 4$	_____ four on both sides to remove the helium balloon
$6 + 4 = s - 4 + 4$	Simplify
$10 = s$	

Check:
$6 = 10 - 4$
$6 = 6$

8. Set up a hanger model for the equation $p - 10 = 2$. Show your work to solve for p.

9. Problem set, use whichever method you wish to solve.

a) $\frac{2}{3}m = 4$

b) $6 + r = 4$

c) $\frac{b}{7} = 5$

d) $x - 7 = 5$

e) $9 = \frac{3}{5}n$

f) $2 = r - 6$