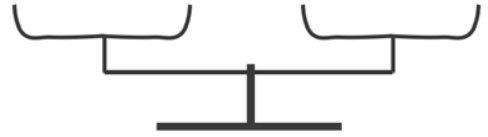


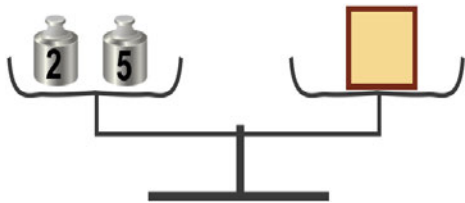
Scales Puzzles

This is a pan balance or scales. You put things into the two “pans,” and the heavier pan will go down, like in a seesaw. If the two things weigh the same, the balance stays balanced.

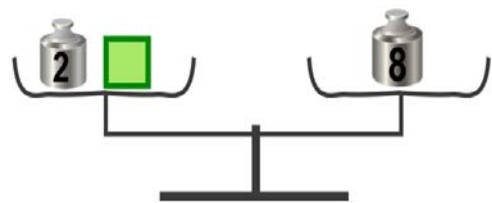
We can use the pan balance to model simple equations with an unknown. In this lesson you will solve many equations with its help.



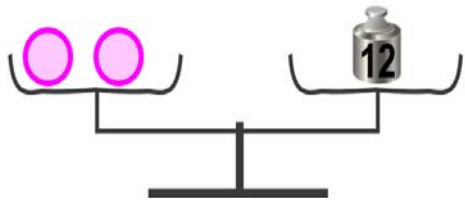
1. Solve how much each geometric shape “weighs.” You can imagine the weights being so many pounds or kilograms, if it helps.



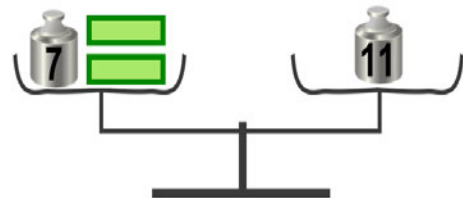
a. The square weighs _____



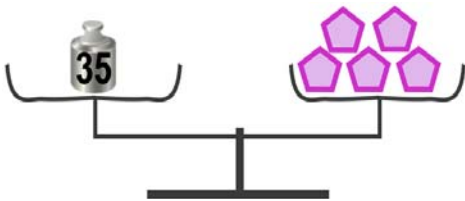
b. The square weighs _____



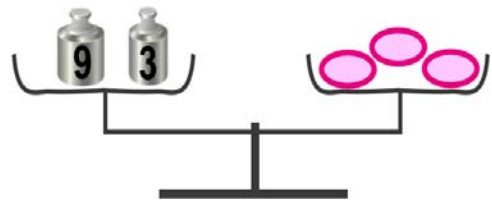
c. One ball weighs _____



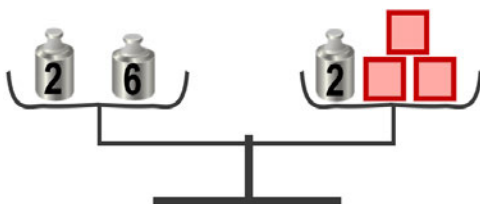
d. One rectangle weighs _____



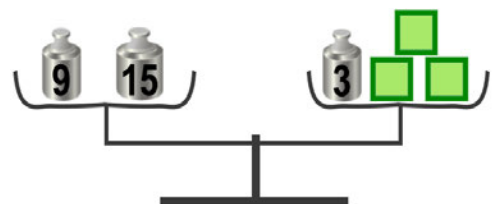
e. One pentagon weighs _____



f. One oval weighs _____



g. One square weighs _____

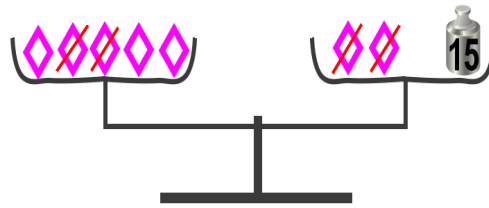


h. One square weighs _____

If there are “unknown shapes” on both sides, use this “trick”:

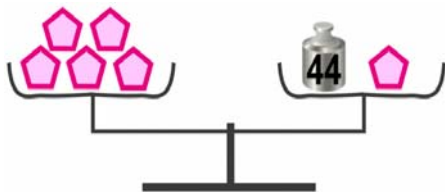
Cross out the same amount of unknown shapes from both sides.

That way the balance will continue to stay balanced!

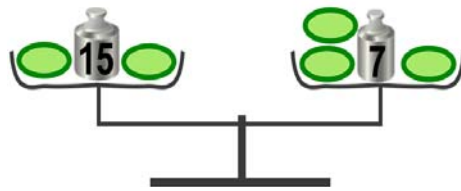


We cross out two diamonds from both sides. Then we see that *three* diamonds weigh 15. This of course means that one diamond weighs 5.

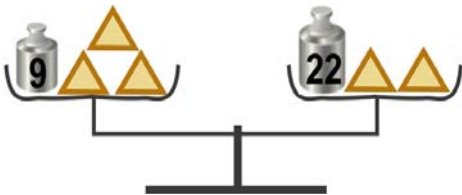
2. Solve the pan balance equations.



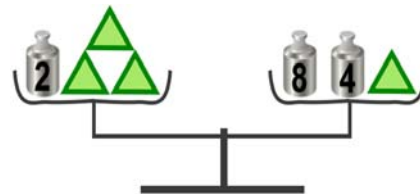
a. One pentagon = _____



b. One oval = _____

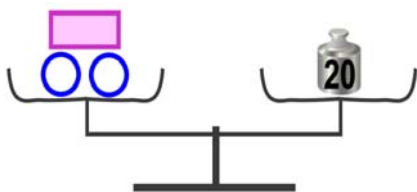
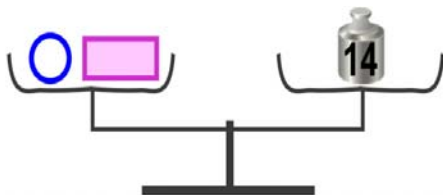


c. One triangle = _____



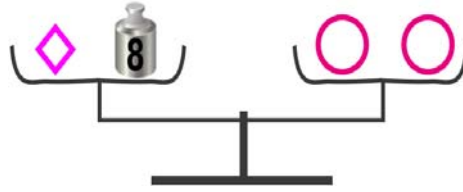
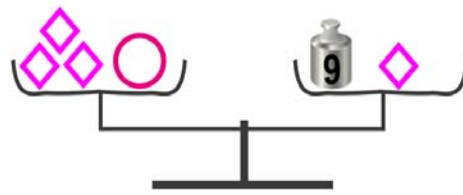
d. One triangle = _____

3. Solve. These are trickier. Use *both* balances to figure out the *two* unknown shapes. Guess and check! See the answer key for a hint.



a. One rectangle = _____.

One circle = _____.



b. One circle = _____.

One diamond = _____.