

How much does it weigh?



1. On a balance scale, we can balance 2 watermelons and an 8 pound weight.
How much does a watermelon weigh?

2. The weight of 2 grapefruit equals the weight of a grapefruit plus a 1 pound weight. How much does a grapefruit weigh?

3. The weight of 3 pumpkins equals the weight of 1 pumpkin plus a 6 pound weight. How much does a pumpkin weigh?

4. The weight of 3 oranges equals the weight of 2 oranges plus a half of a pound. How much does an orange weigh?

For problems 5 - 8, use your answers from problems 1-4 for the weights of watermelons, grapefruit, pumpkins, and oranges.

5. Jason puts 3 watermelons on one side of the scale. How many pumpkins must he put on the other side of the scale to balance the weight of the watermelons?

6. Joe puts 4 oranges on one side of the scale. How many grapefruit must he put on the other side of the scale to balance the weight of the oranges?

7. Alice puts 8 oranges on one side of the scale. There is a 1 pound weight on the other side of the scale.

a. Is the scale balanced? Why or why not?

b. If the scale is not balanced, how many pumpkins should Alice put with the 1 pound weight to balance the weight of the oranges?

8. Lisa puts 5 grapefruit on one side of the scale. There is a 2 pound weight on the other side of the scale.

a. Is the scale balanced? Why or why not?

b. Can Lisa put a watermelon with the 2 pound weight to balance the scale? What about a pumpkin?

9. The weight of a honeydew melon equals the weight of half of a honeydew melon plus 2 pounds. How much does a honeydew melon weigh?

10. The weight of one papaya equals the weight of a third of a papaya plus 2 pounds. How much does a papaya weigh?

11. The weight of 2 apples equals the weight of a quarter of an apple, plus 7 ounces. How much does an apple weigh?

12. The weight of a cantaloupe equals the weight of three quarters of a cantaloupe plus three quarters of a pound. How much does a cantaloupe weigh?

13. There are 24 pounds of nails in a sack. Can you measure out 9 pounds of nails using only the balance scale (additional weights cannot be used)?
How?

14. Jim has a 3 liter container and a 5 liter container and a bathtub full of water. Unfortunately, his containers do not have marks showing smaller measurements.

a. He needs exactly 2 liters of water. How can Jim use only the 3 liter and 5 liter container to get 2 liters?

b. Now Jim needs exactly 4 liters of water. Can you help Jim find the quickest way to use only the 3 liter and 5 liter container to get 4 liters?

15. Cindy has an electronic scale and a 1 pound, 2 pound, and a 4 pound weight. Carl tells her that she can use her weights to get any whole number of pounds between 1 and 7 pounds. Is Carl right? How can Cindy do this?

16. A fruit salesman at an outdoor market has a balance scale (as in problems 1 through 13) and only three weights. But with his three weights he can weigh any whole number of pounds from 1 pound up to 13 pounds. What weights does he have?