



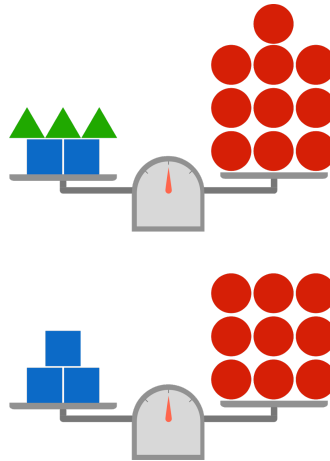
## Competitive Math Assessment - Equations Practice Quiz #2

Here are some suggestions for how to practice replicating testing conditions:

- Make sure you have a quiet place to practice on your own for an extended period of time. This will help model the actual experience of a competition. When you have finished the quiz, check your solutions using the online Brilliant quiz.
- Set a timer, or at least keep an eye on the clock to learn your own pace. If you want to set a specific time goal, math competitions provide an average of about 2 minutes per problem, so you should give yourself 30-40 minutes to complete these problems. Keep in mind that the general difficulty of problems increases as you move forward.
- Some competitions allow students to use calculators while others do not. We encourage you to use a calculator only for the most in-depth calculations on this practice quiz.

1. \_\_\_\_\_

How many green triangles weigh the same amount as 8 red circles?



- A. 3
- B. 4
- C. 5
- D. 6
- E. 7

2. \_\_\_\_\_

If  $4x + 14 = 6(x - 2)$ , what is the value of  $x$ ?



10. \_\_\_\_\_ A company sells the same pair of pants in red, blue, or green. All three colors cost the same amount of money to make, but they are sold at different markups. The red pants are marked-up 20%, the blue pants 25% and the green pants 10%.

During a clearance sale, all pants were offered at a discount. The red pants were 35% off, the blue pants were 40% off, and the green pants were 30% off.

What is the correct comparison of the final price of each pair of pants?

- A. red < blue < green      B. green < blue < red  
C. green < red < blue      D. blue < green < red  
E. blue < red < green
11. \_\_\_\_\_ If  $\frac{a}{bc} = 4$ ,  $\frac{b}{ac} = 8$ , and  $\frac{c}{ab} = 7$ , what is the value of  $\frac{a^2+b^2+c^2}{abc}$  ?

12. \_\_\_\_\_ In an arithmetic sequence, the fifth term is equal to 3 times the first term. If the 20th term in the sequence is 252, which term will be equal to 540?

13. \_\_\_\_\_ While driving to work in the morning, Stefan encountered a lot of traffic and had to drive slowly. When he drove home along the same route there was no traffic, so he was able to drive 80% faster. All together, Stefan spent 56 minutes driving to and from work today. How long did it take him to drive to work in the morning?

14. \_\_\_\_\_ The sum of four consecutive even integers is a 3-digit perfect square. What is the largest possible integer that could be the greatest of the four?

15. \_\_\_\_\_

Maxine has two different nut mixes. Mix A is 25% cashews and 75% almonds. Mix B is 55% cashews and 45% almonds. She combines the two mixes to make 10 pounds of a new mix. If her new mix is 35% cashews, how many pounds of mix A did she use?

A.  $5\frac{2}{3}$

B.  $6\frac{3}{4}$

C.  $6\frac{2}{3}$

D.  $5\frac{1}{4}$

E.  $7\frac{1}{3}$