

Algebra and Geometry 1. Homework 6.



1. In a dried fruit mix, there are 7 parts of dried apples, 4 parts of dried pears and 5 parts of dried apricots. What is the weight (how many grams) of apples, pears, and apricots in the fruit mix, if the total weight of the mix is 1600g?
2. In order to prepare a homemade dried fruits and nuts mix Mary took 6 parts of raisins, 5 parts of dried cranberries and 3 parts of walnuts. Cranberries and walnuts altogether weighted 2 kg 400 g. What was the weight of the mix that Mary prepared?
3. To do her homework, Julia solved math problems, wrote an essay, and did a history project. It took her 2 hours and 15 minutes to finish all the assignments. The ratios of the times she spends doing math, writing the essay, and doing history project are 3:2:1. How much time did she spend for each of her subjects?
4. Evaluate:
 - a. $8 + 7^2$; $(8 + 7)^2$; $8^2 + 7^2$;
 - b. $(11 - 6)^3$; $11 - 6^3$; $11^3 - 6^3$;
 - c. $5 \cdot 2^4$; $(5 \cdot 2)^4$; $5^4 \cdot 2^4$;
 - d. $(14:2)^3$; $14:2^3$; $14^3:2^3$
5. Write the numerical expressions and evaluate:
 - a. Sum of the squares of numbers (-3) and 4; square of the sum of numbers (-3) and 4.
 - b. Square of the difference of numbers 0.3 and 1.3; the difference of squares of numbers 0.3 and 1.3.
6. Solve the following equations:
 - a. $|5x - 2| = 4$;
 - b. $||x| - 5| = 1$
 - c. $|121x + 86| = -100$
7. Evaluate:

$$\frac{\left(2\frac{5}{6} + 1.75\right) \cdot 0.14}{2\frac{1}{3} \cdot 1.1: 1.6}$$

8. On the picture below find the pairs which will supplement each other to a whole cube.

