

**Ratio:**

1. A baseball player's batting average is the ratio of the number of base hits to the number of at-bats, not including walks. Minnesota Twins' Joe Mauer had the highest batting average in Major League Baseball in 2006. If he had 521 official at-bats and 181 hits, find his batting average.
2. In Logan's high school, there are 190 teachers and 2650 students. What is the approximate student-teacher ratio at his school?
3. Out of a survey of 1000 households, 460 had at least one dog or cat as a pet. What is the ratio of pet owners to households?
4. Thirty girls tried out for 15 spots on the basketball team. What is the ratio of open spots to the number of girls competing?

**Extended Ratio:**

5. The ratio of the measures of the angles in a triangle is 3:4:5. Find the measures of the angles.
  
  
  
  
  
  
  
  
  
  
6. In a triangle, the ratio of the measures of the sides is 2:2:3 and the perimeter is 392 inches. Find the length of the longest side of the triangle.
  
  
  
  
  
  
  
  
  
  
7. The ratio of the measures of three sides of a triangle is 2:5:4, and its perimeter is 165 units. Find the measure of each side of the triangle.
  
  
  
  
  
  
  
  
  
  
8. The ratios of the measures of three angles of a triangle are 4:6:8. Find the measure of each angle of the triangle.

**Proportions:**

Geometry CP  
7.1 Ratios and Proportions

9. Solve:

a.  $\frac{6}{x} = \frac{21}{31.5}$

c.  $\frac{-4}{7} = \frac{6}{2y+5}$

e.  $\frac{1}{x+1} = \frac{x-2}{3x-5}$

b.  $\frac{x}{4} = \frac{11}{-6}$

d.  $\frac{7}{x-1} = \frac{9}{x+4}$

10. Fernando conducted a survey of 50 students driving to school and found that 28 owned cars. If 755 students drive to his school, predict the total number of students who own cars. Round your answer to the nearest whole number.

11. In an experiment, students netted butterflies, recorded the number with tags on their wings, and then released them. The students netted 48 butterflies and 3 of those had tagged wings. Predict the number of butterflies that would have tagged wings out of 100 netted. Round your answer to the nearest whole number.

12. Ella is baking apple muffins for the Student Council bake sale. The recipe that she is using calls for 2 eggs per dozen muffins, and she needs to make 108 muffins. How many eggs will she need?

**Equivalent Proportions:**