

Diagnostic Test

Unit 12 Ratio, Proportion and Percent

Purpose: to help the student and instructor determine what, if any, sections of this unit the student needs to study.

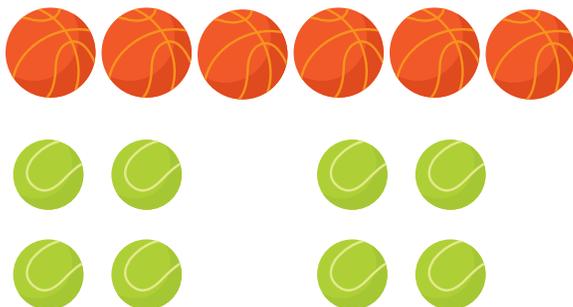
Do all the math work neatly on the test itself. The instructor will pay as much attention to the work as to the answers.

For problems 1 and 2, write a ratio describing the pictures.

1.



2.



Complete the list of equal ratios below:

3. $\frac{\text{Cups of flour} \rightarrow 5}{\text{Cups of milk} \rightarrow 2} = \frac{10}{?} = \frac{?}{6} = \frac{20}{?}$

Find the missing number:

4. $\frac{11}{?} = \frac{19}{4.6}$

Solve this problem by writing a proportion and using cross products:

5. A school has 3 boys for every 2 girls. If there are 122 girls in the school, how many boys are there?

Use whatever method you would like to solve these problems:

6. I worked 3.5 hours and earned \$29.75. How much would I earn if I worked 8 hours?
7. What is the unit price for pens if you can buy 12 pens for \$6.99?
8. 400 people were asked what their favorite vacation spot was. 66 people said Disneyland. What percent of the people said Disneyland?
9. I took a test and got 85% right. There were 180 questions on the test. How many questions did I get right?
10. I took a test and got 138 questions right. This was 92% right. How many questions were on the test?
11. I shot a basketball 128 times and made 37.5% of my shots. How many shots did I make?
12. A coffee pot is being sold for \$89.99. Sales tax is 8%. How much total must you pay for the coffee pot?
13. If an item costs \$1.50 before sales tax and \$1.59 with sales tax, what is the percent of sales tax?
14. A popcorn popper usually costs \$60.00. If it is on sale for a discount of 12%, how much is its new price? If sales tax is 6.5%, how much do you have to pay to buy it today?
15. You borrow \$6,500 at an interest rate of 14% per year, and you pay back the loan in 18 months. How much money do you have to pay back altogether?
16. You earned \$5,000 in 2011 and \$27,500 in 2012. What is the percent of increase in your earnings?