First name: _____ Last name: _____ Student ID: _____

Percent and Ratio Homework

Basic problems:

1. **Complete. Numbers are rounded to the nearest hundredth of a percent.**

1. decimal 0.8 fraction _____	2. percent 50% decimal _____	3. percent 20% fraction _____
4. fraction 7/16 percent _____	5. fraction 5/8 percent _____	6. fraction 2/5 decimal _____
7. decimal 0.75 percent _____	8. decimal 8.37 fraction _____	9. percent 40% decimal _____
10. fraction 7/25 decimal _____	11. fraction 3/8 percent _____	12. decimal 0.8 fraction _____

2. **Complete.**

1. fraction 83/100 decimal _____ percent 83%	2. fraction 439/50 decimal 8.79 percent _____	3. fraction _____ decimal _____ percent 49%
4. fraction 18/5 decimal _____ percent _____	5. fraction 5/8 decimal _____ percent 62.5%	6. fraction _____ decimal 0.38 percent _____

3. **Fill in the missing value. Assume simple interest. *I = prt where I is the interest, p is the principal, r is the interest rate, and t is the number of years.***

1.	principal	$468,316	2.	principal	$2,322
	interest rate	13%		interest rate	_____
	time	_____		time	1 year
	simple interest	$243,524.32		simple interest	$46.44
3.	principal	$867,230	4.	principal	$96,191
	interest rate	_____		interest rate	4%
	time	4 years		time	_____
	simple interest	$312,202.80		simple interest	$11,542.92
5.	principal	$11,450	6.	principal	$442,992
	interest rate	10%		interest rate	_____
	time	_____		time	2 years
	simple interest	$5,725		simple interest	$97,458.24

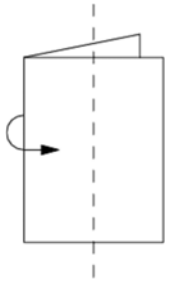
Challenge problems:

1. Julie is preparing a speech for her class. Her speech must last between one-half hour and three-quarters of an hour. The ideal rate of speech is 150 words per minute. If Julie speaks at the ideal rate, which of the following number of words would be an appropriate length for her speech?
(A) 2250 (B) 3000 (C) 4200 (D) 4350 (E) 5650

2. Sale prices at the Ajax Outlet Store are 50% below original prices. On Saturdays an additional discount of 20% off the sale price is given. What is the Saturday price of a coat whose original price is $180?

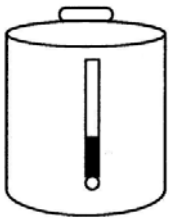
3. Tori's mathematics" test had 75 problems: 10 arithmetic, 30 algebra, and 35 geometry problems. Although she answered 70% of the arithmetic, 40% of the algebra, and 60% of the geometry problems correctly, she did not pass the test because she got less than 60% of the problems right. How many more questions would she have needed to answer correctly to earn a 60% passing grade?

4. Suppose a square piece of paper is folded in half vertically. The folded paper is then cut in half along the dashed line. Three rectangles are formed-a large one and two small ones. What is the ratio of the perimeter of one of the small rectangles to the perimeter of the large rectangle?



5. Jack had a bag of 128 apples. He sold 25% of them to Jill. Next he sold 25% of those remaining to June. Of those apples still in his bag, he gave the shiniest one to his teacher. How many apples did Jack have then?

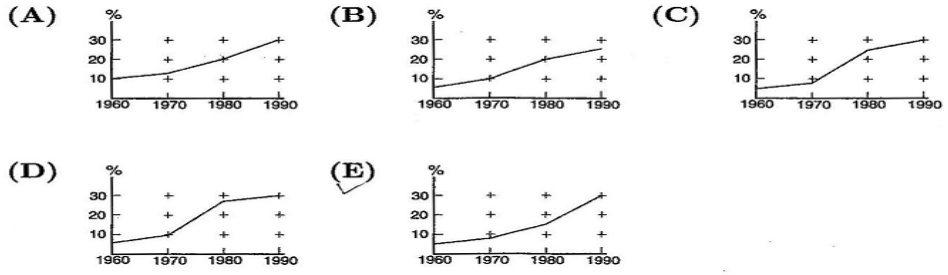
6. The glass gauge on a cylindrical coffee maker shows there are 45 cups left when the coffee maker is 36% full. How many cups of coffee does it hold when it is full?



7. If the length of a rectangle is increased by 20% and its width is increased by 50%, then what is the area is increased by?

8. Business is a little slow at Lou's Fine Shoes, so Lou decides to have a sale. On Friday, Lou increases all of Thursday's prices by 10%. Over the weekend, Lou advertises the sale: "Ten percent off the listed price. Sale starts Monday." How much does a pair of shoes cost on Monday that cost $40 on Thursday?

9. In 1960 only 5% of the working adults in Carlin City worked at home. By 1970 the "at-home" work force had increased to 8%. In 1980 there were approximately 15% working at home, and in 1990 there were 30%. What is the graph that best illustrates this?



10. For the game show Who Wants To Be A Millionaire? The dollar values of each question are shown in the following table (where K = 1000).

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Value	100	200	300	500	1K	2K	4K	8K	16K	32K	64K	125K	250K	500K	1000K

Between which two questions is the percent increase of the value the smallest?

(A) From 1 to 2 (B) From 2 to 3 (C) From 3 to 4 (D) From 11 to 12 (E) From 14 to 15