## Set all cell phones to off or silent - no vibrating.

1. (a) [3 pts] Compute by hand:  $0.35 \div 1.4$ 

(b) [6 pts] Explain clearly why the decimal point in the quotient is treated as it is. (You need not explain the other decimal points.)

2. [6 pts] Without counting positions nor computing the entire product, determine the name of the smallest place value that must occur in the answer to  $6.148 \times 7.04$ . (A short sentence or miniature computation is sufficient - you need not explain.)

3. (a) [3 pts] Convert  $\frac{70}{108}$  to a decimal. Do not round.

(b) [6 pts] Create an irrational number that is between  $\frac{70}{108}$  and  $0.64\overline{81}$ .

- 4. [26 pts items vary] Convert and round as indicated; if not possible, say so.
  - (a)  $5.23\overline{4}$  to a fraction

- (b) 3.412441244412... to a fraction
- (c) 47.474474447... to a percent round to the nearest tenth of a percent

(d) 309.00206 to expanded form written with exponents (powers of ten)

(e) "Seventeen million six thousand two and forty-nine ten-thousandths" to a fraction

5. [6 pts] Which is the largest:  $\frac{67}{990}$ , 0.0676, or 0.0676? Show supporting work, but you need not explain.

6. [10 pts] Explain how remainders help us to know that fractions can only create decimals that terminate or repeat.

7. [6 pts] Which is larger:  $\frac{4}{3}$  of a number, or 130% of the number? Justify your response verbally or with a computation.

8. [8 pts] Use the definition of exponents (not any rules) to show why  $(a^4)^2$  equals what it does.

9. [10 pts] Alden bought a plane ticket and paid \$207.71 altogether, which included a 12.8% surcharge for taxes and fees. What was the actual cost of the ticket without the surcharge? Show clear work, but you need not explain.

10. [10 pts] Kim bought an item marked with a 15% off sticker and got a surprise coupon for 30% off her entire purchase in a grab bag at the register. What is the overall percent of discount she will get on the item (round to the nearest tenth of a percent)? Show clear work, but you need not explain.