## 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) $3.412441244412 \ldots$ to a fraction
(c) $47.474474447 \ldots$ 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: $\frac{67}{990}, 0.067 \overline{6}$, or $0.0 \overline{676}$ ? 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 $\left(a^{4}\right)^{2}$ 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.
