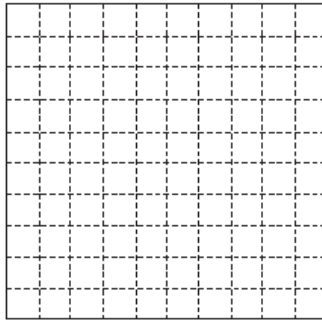1.   Write each of the numbers 0.555, 0.5, 0.55 in expanded notation.

2.   Place the numbers 0.555, 0.5, 0.55 in order from
        smallest to largest. Use the grid to draw a picture
        illustrating the largest number.

3.   Each common fraction has a decimal representation. In some cases the decimal
        representation terminates; it other cases we can only find a nonterminating, but repeating,
        representation.   Specify exact decimal representations for the following common
        fractions.

        3/4   3/40

        3/7   3/70

        5/16   5/1600

        7/9   7/900

4.   Complete the following statements. If a common fraction is specified, you write its
        decimal representation. If a decimal is specified, you write a common fraction
        representation.

        1/9   = _____   1/99 = _____
        4/9   = _____   7/99 =
        _____ = 0.55555...   23/99 =
        5/10 = _____   _____ = 0.060606...
        8/9   = _____   _____ = 0.717171...

5. Comment on any patterns you found in completing item #4 above.

6. Look for patterns in completing the following statements

$2/9 =$ _____ $2/90 =$ _____ $2/900 =$

_____ $= 0.44444...$ _____ $= 0.0444444...$ _____ $= 0.0044444...$

$2/99 =$ _____ $2/990 =$ _____ $2/9900 =$

$13/99 =$ _____ $13/990 =$ _____ $13/9900 =$

$71/99 =$ _____ $71/990 =$ _____ $71/9900 =$

_____ $= 0.535353...$ _____ $= 0.0535353...$ _____ $= 0.00535353...$

_____ $= 0.010101...$ _____ $= 0.0010101...$ _____ $= 0.00010101...$

$1/999 =$ _____ $1/9990 =$ _____ $1/99900 =$

$13/999 =$ _____ $13/9990 =$ _____ $13/99900 =$

$237/999 =$ _____ $237/9990 =$ _____ $237/99900 =$

_____ $= 0.537537537...$ _____ $= 0.0537537537...$ _____ $=0.00537537537...$

7.   Comment on any patterns you observed in working item #6 above. Exploit those patterns in finding common fraction representations for each of the following decimals.

$0.616161... =$ _____ $0.888... =$ _____ $0.7777 =$ _____ (Careful!)

$0.345345345... =$ _____ $0.0888... =$ _____ $0.00888... =$

$1.555... =$ _____ $0.00272727... =$ _____ $0.5333... =$