UIL Number Sense Contest

Problems #21-40 from the Sequence Chart

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First, lets look at some ESTIMATIONS

??? Estimating - Rounding - Truncating - Reasonableness ???

***(10) 4554 — 5665 — 6776 =**

***(20) $\sqrt{7766}$ =**

***(30) 959 × 626 =**

***(40) $8\frac{1}{3}\% \times 173 \div 6\frac{1}{4}\%$ =**

***(50) 19 × 109 + 109 × 21 =**

***(60) 714.2857 × 246 =**

***(70) 31.41 × e + 27.18 × π =**

***(80) 4444 feet/second = ___ miles/hour**

***(10) 24242 + 2424 + 242 + 24 + 2 =**

***(20) 78563 ÷ 492 =**

***(20) 321 × 2013 =**

***(30) $2\frac{9}{10} \times 1511.5 \div 11$ =**

***(30) 222 × 88 + 92 × 218 =**

***(60) $4^3 \times 8^2 \div 2^2$ =**

***(60) 64 radians = _____ degrees**

***(60) 2013 log 1001 =**

***(80) $(1 + 2 + 3 + 4 + 5 + ... + 10)^2$ =**

***(80) 4 bushels + 32 pecks + 64 quarts = _____ pints**

UIL High School Number Sense Test Problem Sequencing

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Problems 21 - 40 *

1) Powers of Numbers
2) Substitution
3) Word Problems
4) Inverses
5) Absolute Value
6) Ratio/Proportion
7) Square Roots/Cube Roots
8) Sets
9) Base System Conversion Problems
10) Solving Simple Equations
11) Systems of Equations
12) Repeating Decimals to Fractions
13) More Remainder Type Problems
14) Perimeter & Area of Polygons and Circles
15) Sequences
16) Quadratic & Cubic Equation Problems

***** A type of problem from a particular section could appear later in the test.**
Example: A base problem could appear as problem #55, but should not appear earlier than problem #21.

Any questions on any of these?

(21) $1797 \times 3 + 9 =$ _____

(22) $39 \times 31 - 33 \times 13 =$ _____

(23) $83 \times 87 =$ _____

(24) $(50 \times 34 - 18) \div 7$ has a remainder of _____

(25) Find the slope of the line $5x + 4y = 18$. _____

(26) $\sqrt{8836} =$ _____

(27) $405 \times 16 =$ _____

(28) $3600 = [3(12 + k)]^2$. Find $k \geq 0$. _____

(29) The largest root of $15x^2 + 7x - 4 = 0$ is _____

***(30)** $\sqrt{6} \times 597 =$ _____

(31) A pickup gets 17 miles per gallon of gas. How far can it travel on 23 gallons of gas? _____ miles

(32) 504 base 10 is written as _____ in base 7

(33) 0.0545454... _____ (proper fraction)

(34) How many positive integers less than or equal to 27 are relatively prime to 27? _____

(35) 6.5 is _____ % more than 4

(36) A regular hendecagon has how many sides? _____

(37) Find the simple interest on $500.00 at a rate of 4% for 18 months. $ _____

(38) Given: 8145B is divisible by 6. Find $B > 0$. _____

(39) Find y if $5x - y = 1$ and $4x + y = 8$. $y =$ _____

***(40)** $(248 \times 53)^2 \div (47 \times 289) =$ _____