



Warm-Up 1

31. _____ Elmina wants to estimate the sum $5394 + 32,147 + 792$ to check if her final answer is reasonable. She rounds each number to the nearest thousand before adding them. What is her estimated sum?

32. _____ An arithmetic sequence has a common difference between consecutive terms. For example, the sequence 5, 12, 19, 26, 33 is an arithmetic sequence with a common difference of 7. The sum of the first six terms in a particular arithmetic sequence is 42. If the first term is 2, what is the fourth term?

33. _____ Mr. Huang's class creates a banner to hang around the walls of his classroom. The banner repeats the 26 letters of the alphabet. What is the 137th letter written on the banner?

34. _____ If $x + 3 = 10$, what is $x^2 + 3^2$?

35. _____ fluid ounces

Nadine started with 1 gallon of water. She removed 2 quarts, then added 3 pints and finally removed 4 cups. How many fluid ounces of water are left?

36. _____ Friends Alice and Maud each think of a different integer from 1 to 10, inclusive. They have the following conversation in front of Nina, who confirms to them that the two integers are different. What is Alice's integer?

Alice

- The product of our numbers is even.
- The sum of our numbers is also even.
- My number is not a proper divisor of your number.
- The units digit of your number squared is not equal to the units digit of my number.
- The greatest common divisor of our numbers is 2.
- I'm not sure if your number is bigger than mine.

Maud

- My number is not bigger than yours.

37. _____ cups

Alex is making soup. The recipe's final step, after blending ingredients into a puree, says: "For every $\frac{3}{4}$ cup of puree, add $\frac{1}{3}$ cup of milk and $\frac{1}{2}$ cup of water." If Alex has 3 cups of puree, how many more cups of water than milk does he need to add? Express your answer as a common fraction.

38. _____ units

Stephen has 21 unit square tiles, which he aligns in a triangular formation, shown right. What is the perimeter of his figure, in units?

39. _____

If Dante cut his blueberry pie into 6 equal slices, and Joe ate $1\frac{1}{2}$ pieces, what fraction of the pie did Joe eat? Express your answer as a common fraction.

40. _____

What is the units digit of the sum $1^2 + 2^2 + 3^2 + 4^2 + 5^2$?