

COMPLETE BY AUGUST 31

From http://www.transum.org/Software/sw/Starter_of_the_day/. First, fill in the blanks. Then figure out how many in a gross and how many in a score.

A dozen, a gross, and a score,
Plus three times the square root of _ _ _ _
Divided by _ _ _ _ _
_ _ _ _ five times eleven
Equals _ _ _ _ squared and not a bit more.

1. Manny has four pennies, four nickels and four quarters. What amounts of money can he make exactly from these coins? [For example, he can make 53¢ by taking 3 pennies and 2 quarters] Explain.

2. How many different ways can you make 79¢ using pennies, nickels and quarters?

3. What is the smallest number of coins that can be used to make 88¢? Explain your reasoning

4. Pencils are often packaged by the dozen (12 pencils to a package) and boxed by the gross (12 packages or 144 pencils). Price discounts are offered: one pencil costs 99¢, one dozen costs \$10.90 and one gross costs \$119. Suppose you need to buy one pencil for each of 275 students. Is it cheaper to buy exactly 275 pencils or to buy extra pencils by rounding up to the next package?