

Quiz 6

Key

This is a two-stage quiz. During the first stage, you can use your knowledge & calculator. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have 15 min. to write one solution (with everyone's name on it!!!) to be turned in for the group. Groups must be 2 or 3 people.

Show your work as you would for a colleague. Partial credit requires reasonable support.

- [2] Decide if the sentence makes sense. If it makes sense provide some brief justification, if not, create a sentence with the numbers given that does make sense.
"The number 8 is a multiple of 24."

Start (5)

(1.5) [Does not make sense. Multiples are generally larger than a given number. For ex, 48 is a multiple of 24.
(1.5) In fact 8 is a factor of 24 because $8 \times 3 = 24$.

- [2] If n and m have the prime factorizations: $n = 2 \times 5 \times \underline{5} \times 7$ and $m = \underline{5} \times 7 \times 3$, what is the least common multiple of n and m ?

mult def (1.5)

(1.5) [Need a multiple of n and m .

Start (1.5)

smallest (1.5) [Consider $n \times 3 = 2 \times 5 \times 5 \times 7 \times 3 = 2 \times 5 \times \underline{5} \times 7 \times 3 = 2 \times 5 \times m = 1050$

- [3] Find a factor tree for 198 and write down the prime factorization of 198.

Factor tree idea (1.5)

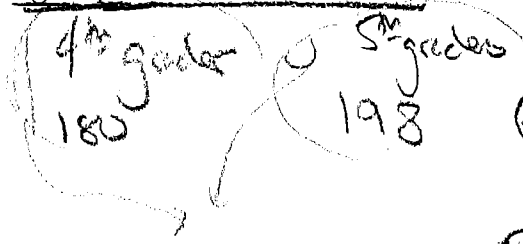
Method (1.5)



$$\underline{198 = 2 \times 3 \times 3 \times 11}$$

- [3] A school principal plans to form teams from 180 fourth-graders and 198 fifth-graders so that there is the same number of students from each grade level on each team. Note that the number of students could vary by grade level, for example, each team could have 9 fourth-graders and 18 fifth-graders. If all students participate, what is the largest possible number of teams? Show your work.

Start (1.5)



Factor tree of 180 (1.5)

(1.5) [ie need to find $GCD(180, 198)$ as the shared method will help us build the group sizes 180
(1.5) $GCD(180, 198) = 3 \times 3 \times 2$
or 18

