

Quiz 6

Key

This is a two-stage quiz. During the first stage, use your knowledge & calculator to take this quiz. 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.

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

- [3] Consider the statement below. If the statement is true provide some reasoning for why (examples are *not* enough). If the statement is false, provide a counterexample.
"If a number is divisible by 9, then the number is also divisible by 3."

start (+1.5)
sense (+1.5)
Extra Points (+1)
eg $36 = 9 \cdot 4$ so 36 is divisible by 9. And also by 3?
If n is divisible by 9 then $n = 9 \cdot ?$ for some integer?
So $n = 9 \cdot ? = 3 \cdot 3 \cdot ? = 3(3 \cdot ?) \Rightarrow n$ is also divisible by 3
(+1.5)

- Consider the numbers a and b whose prime factorizations are:

$$a = 2^3 \times 3 \times 5 \times 11^3 \times 13 \times 17 \text{ and } b = 2^2 \times 5^2 \times 11^2 \times 13^2$$

- [2] Find the GCF(a, b). (Writing the prime factors is fine.)

(+1) all factors that a and b both share

- [2] Find the LCM(a, b). (Writing the prime factors is fine.)

(+1) has all the factors of a AND b

- [3] Dr. Card has 63 inches of purple string and 42 inches of gold string. What are the largest pieces he can cut these strings so that each piece is the same length and all the string is used?

start (+1)
(+1.5) We are looking for a length that divides 63 AND 42
So a factor of 63 AND 42.
We want the largest? So find GCF(63, 42)



So 7, 3 or 21 inches work.
(+1)