Prime Time Test Study Guide → Test on Tuesday, 10/18/16

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Vocabulary → Words you need to understand the definitions of to complete the problems on the test.

- Prime Factorization
- Factor
- Greatest Common Factor (GCF)
- Least Common Multiple (LCM)
- Common Multiple
- Factorization
- Odd
- Even
- Expression
- Equivalent

Practice Problems:

1. Find the prime factorization of each number. Show your work. (Lesson 3.2)

   a. 90   **b.** 440

2. What number has the prime factorization $2^3 \times 3 \times 5 \times 7$? Show how you found the number. (Lesson 3.2)

3. A number is less than 50. The number has 12 and 4 as factors. Find the number and explain how you found it. (Investigation 1)

4. The owners of an apple orchard want to add trees and a petting zoo in an open field. Below is a sketch of their plan. The owners do not know all of the measurements of the field.

Petting Zoo	New Trees

10 feet

25 feet   n feet
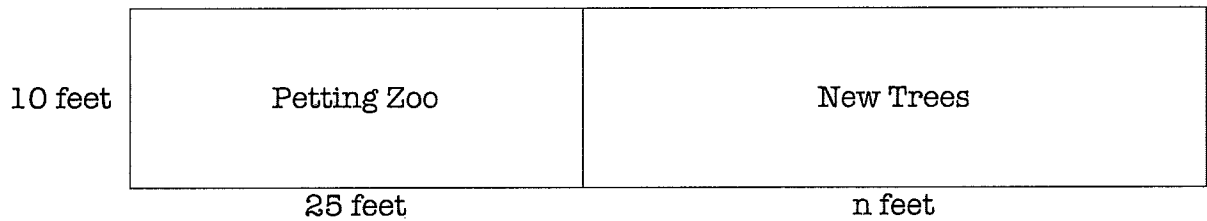
Write two expressions for the <u>area of the whole field.</u> (Lesson 4.2)

5. The manager of a restaurant turns on two neon signs at the same time. Both signs blink as they are turned on. One sign blinks every 9 seconds. The other sign blinks every 15 seconds. In how many seconds will they blink together again? (Investigation 2)

6. Miriam's uncle donates 120 cans of juice and 90 packs of cheese crackers for a school picnic. Each student must receive the same number of cans of juice and the same number of packs of crackers with no leftovers. (Investigation 2)

a. What is the greatest number of students who can come to the picnic and share the food equally? Show your work.

b. How many cans of juice and packs of crackers will each student receive? Show your reasoning.

7.   a.   What is the greatest common factor of 36 and 54? Use the Prime Factorization method. (Lesson 3.3)

b. What is the least common multiple of 36 and 54? Use the Prime Factorization method. (Lesson 3.3)

c. Find another common multiple of 36 and 54. (Investigations 2 & 3)

8. Jackson wrote the factorization $5^2 \cdot 7^2$. Without finding the actual number, how can Jackson tell if the number is even or odd? (Investigation 4)

9. Find the value of the expression $27 - 2^3 \div 2 + 3(8)$. (Lesson 4.3)

10. Is each expression equivalent to 15 × 40? Justify your reasoning. (Investigation 4)

a. 25 (6 + 8 +10)

b. 45 × 15 − 5^2 • 3

c. 3 (25 ÷ 5) + 40

d. (3 • 8) + (5 • 5)