MathVine - Pre-Algebra Name_____

Prime Factorization Date_____ Period_____

Write the prime factorization of the given number.

1) 49

2) 28

3) 48

4) 87

5) 60

6) 90

7) 20

8) 92

9) 10

Prime Factorization Date_____ Period_____

Write the prime factorization of the given number.

1) 49

Answer: $7 * 7$

2) 28

Answer: $2 * 2 * 7$

3) 48

Answer: $2 * 2 * 2 * 2 * 3$

4) 87

Answer: $3 * 29$

5) 60

Answer: $2 * 2 * 3 * 5$

6) 90

Answer: $2 * 3 * 3 * 5$

7) 20

Answer: $2 * 2 * 5$

8) 92

Answer: $2 * 2 * 23$

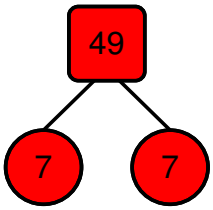
9) 10

Answer: $2 * 5$

Prime Factorization Date_____ Period_____

Solution Steps

1) 49

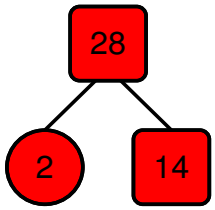


$49 = 7 * 7$

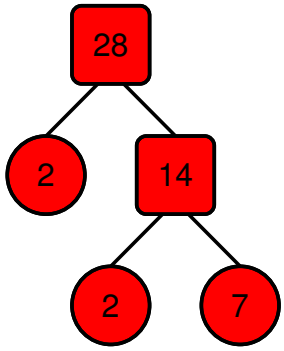
The prime factorization of 49 can be written as:

7^2

2) 28



$28 = 2 * 14$

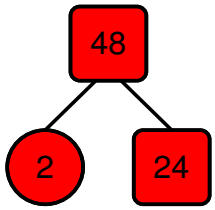


$14 = 2 * 7$

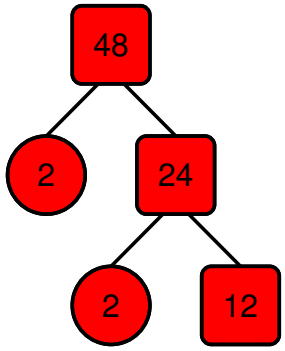
The prime factorization of 28 can be written as:

$2^2 * 7^1$

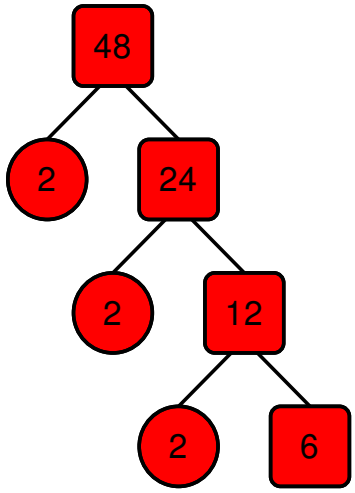
3) 48



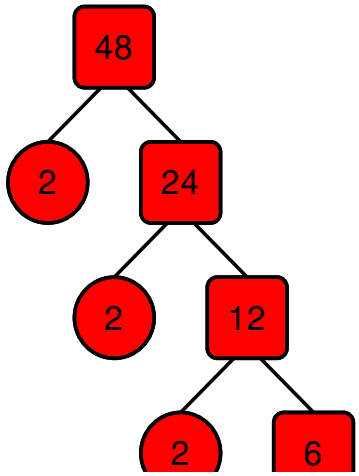
$48 = 2 * 24$

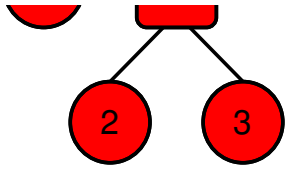


$24 = 2 * 12$



$12 = 2 * 6$



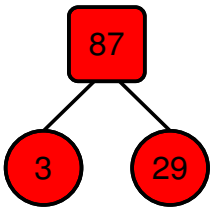


$6 = 2 * 3$

The prime factorization of 48 can be written as:

$2^4 * 3^1$

4) 87

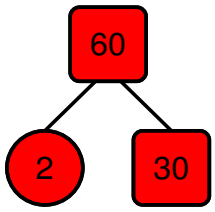


$87 = 3 * 29$

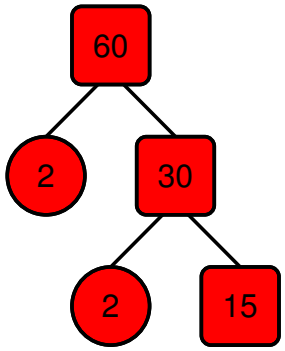
The prime factorization of 87 can be written as:

$3^1 * (29)^1$

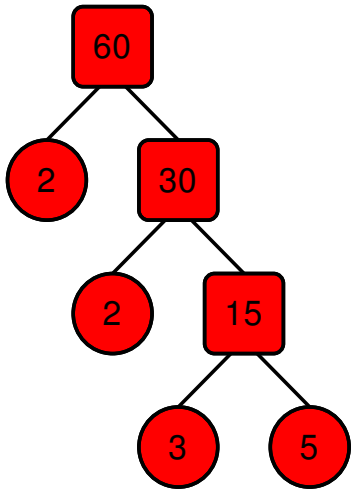
5) 60



$60 = 2 * 30$



$30 = 2 * 15$

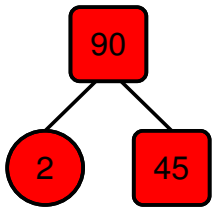


$15 = 3 * 5$

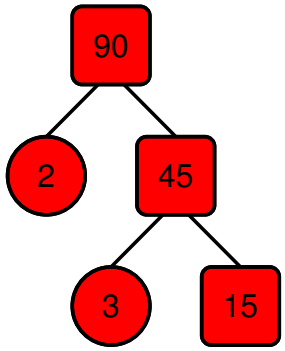
The prime factorization of 60 can be written as:

$2^2 * 3^1 * 5^1$

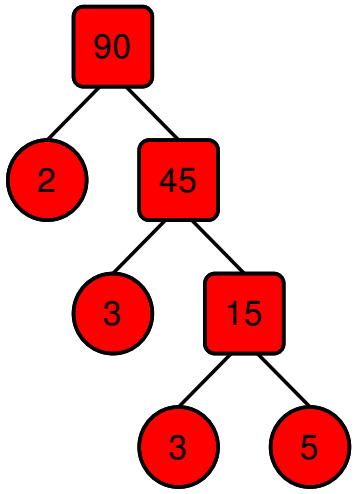
6) 90



$90 = 2 * 45$



$45 = 3 * 15$

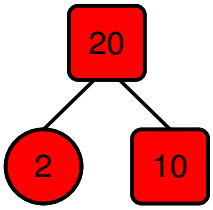


$15 = 3 * 5$

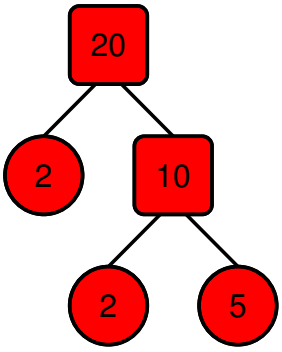
The prime factorization of 90 can be written as:

$2^1 * 3^2 * 5^1$

7) 20



$20 = 2 * 10$

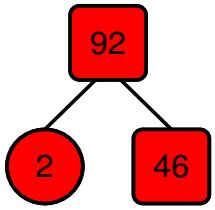


$10 = 2 * 5$

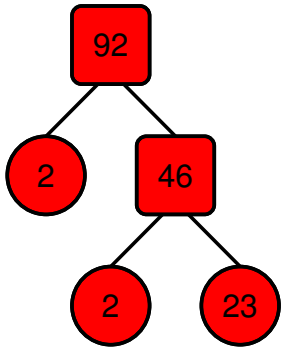
The prime factorization of 20 can be written as:

$2^2 * 5^1$

8) 92



$92 = 2 * 46$

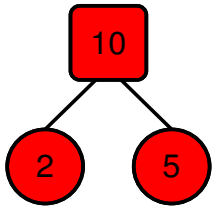


$46 = 2 * 23$

The prime factorization of 92 can be written as:

$2^2 * (23)^1$

9) 10



$10 = 2 * 5$

The prime factorization of 10 can be written as:

$2^1 * 5^1$