

Factor trees

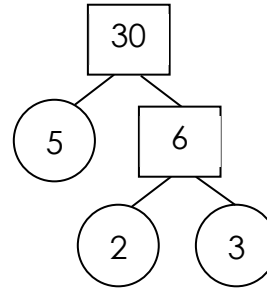
Grade 6 Factoring Worksheet

Use a factor tree to break down each number. Circle the prime numbers and box the composite numbers. Write the prime factorization.

Factors are two or more numbers that can be multiplied to get a number.

Prime numbers are numbers that have only two factors: 1 and itself (e.g., 2, 3, 5, 7).

Composite numbers have more than two factors.



Factors:

2, 3, 5

Prime numbers:

2, 3, 5

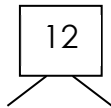
Composite numbers:

30, 6

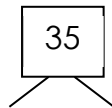
Prime factorization:

$2 \times 3 \times 5$

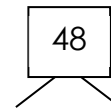
1)



2)



3)



$12 = \underline{\hspace{2cm}}$

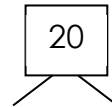
$35 = \underline{\hspace{2cm}}$

$48 = \underline{\hspace{2cm}}$

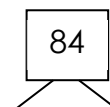
4)



5)



6)



$63 = \underline{\hspace{2cm}}$

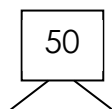
$20 = \underline{\hspace{2cm}}$

$84 = \underline{\hspace{2cm}}$

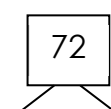
7)



8)



9)



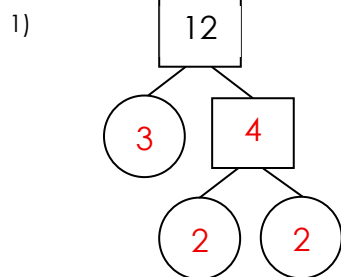
$27 = \underline{\hspace{2cm}}$

$50 = \underline{\hspace{2cm}}$

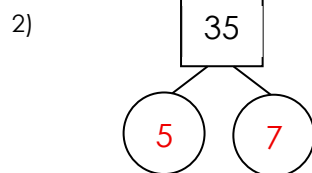
$72 = \underline{\hspace{2cm}}$

Answers

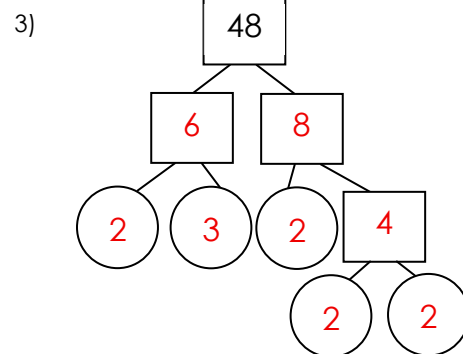
Note: A number can have more than one possible factor tree, but the final prime factorization will always be the same.



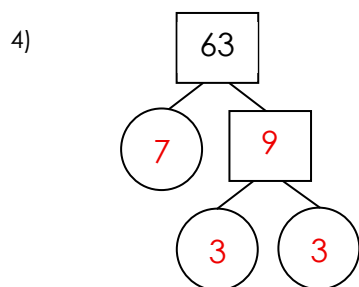
$$12 = 2 \times 2 \times 3$$



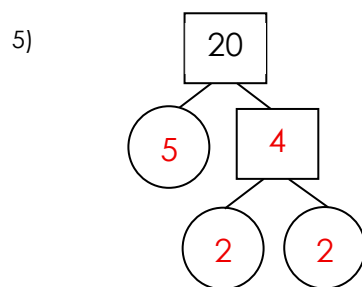
$$35 = 5 \times 7$$



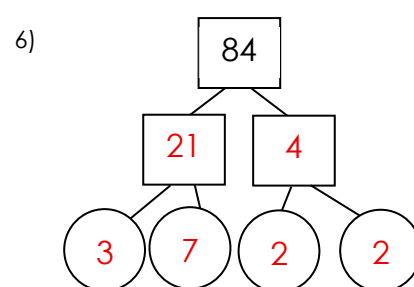
$$48 = 2 \times 2 \times 2 \times 2 \times 3$$



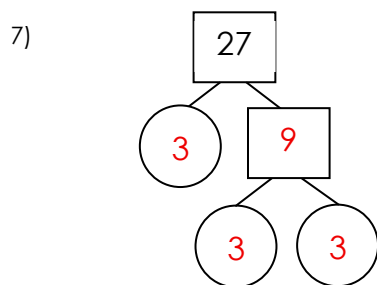
$$63 = 3 \times 3 \times 7$$



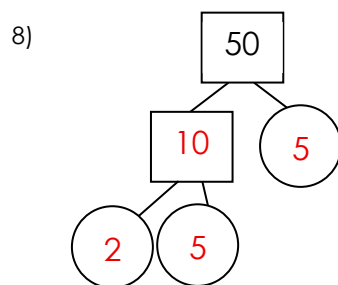
$$20 = 2 \times 2 \times 5$$



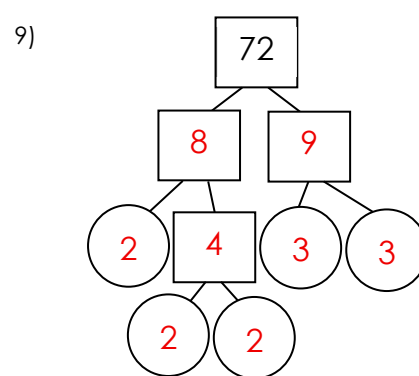
$$84 = 2 \times 2 \times 3 \times 7$$



$$27 = 3 \times 3 \times 3$$



$$50 = 2 \times 5 \times 5$$



$$72 = 2 \times 2 \times 2 \times 3 \times 3$$