



Name: _____

Date: _____

1. Is 47 prime or composite?

Composite

Prime

2. How many factors does 46 have?

3. Is 2 a factor of 46?

Yes

No

4. Which of these is a PRIME number?

22

15

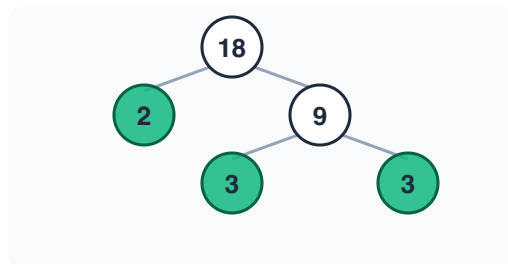
5

16

5. What is the smallest factor of 27 that is greater than 1? ____



6. The factor tree breaks 18 into primes. What is its prime factorization?



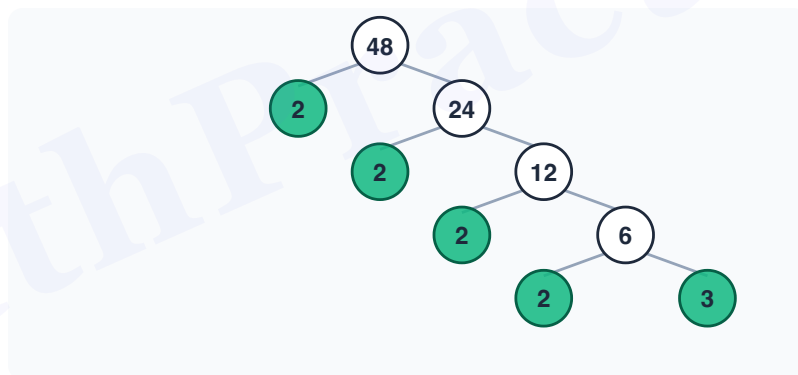
6×3

$2 \times 3 \times 3$

$2 \times 2 \times 3$

$2 \times 3 \times 4$

7. How many prime factors (counting repeats) does 48 have, as the tree shows?



8. Is 15 prime or composite?

Prime

Composite



9. How many factors does 24 have?

10

9

8

7

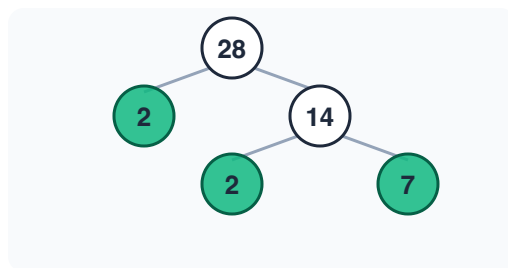
10. Is 2 a factor of 43?

Yes

No

11. What is the smallest factor of 25 that is greater than 1? ____

12. The factor tree breaks 28 into primes. What is its prime factorization?



$2 \times 2 \times 7$

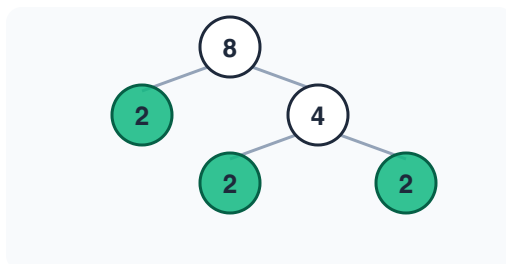
$2 \times 2 \times 2$

$2 \times 2 \times 8$

$2 \times 7 \times 4$



13. How many prime factors (counting repeats) does 8 have, as the tree shows?



3

4

2

5

14. Is 23 prime or composite?

Composite

Prime

15. How many factors does 36 have?

7

11

10

9

16. Is 3 a factor of 27?

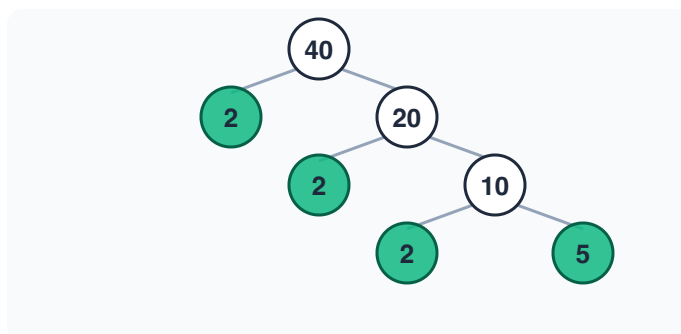
No

Yes

17. What is the smallest factor of 15 that is greater than 1? ____



18. The factor tree breaks 40 into primes. What is its prime factorization?



$2 \times 2 \times 2 \times 5$

$2 \times 2 \times 2 \times 6$

$2 \times 2 \times 2$

$2 \times 2 \times 2 \times 2$



Answer Key

1. **Prime** 47 is prime (only factors 1 and itself).
2. **4** 46 has these factors: 1, 2, 23, 46 - that is 4.
3. **Yes** $46 \div 2 = 23$ with no remainder, so 2 is a factor.
4. **5** 5 is prime - its only factors are 1 and 5.
5. **3** 3 divides 27 evenly ($27 \div 3 = 9$), and nothing smaller than 3 (except 1) does.
6. **$2 \times 3 \times 3$** Multiplying the leaves: $2 \times 3 \times 3 = 18$.
7. **5** $48 = 2 \times 2 \times 2 \times 2 \times 3$ - that is 5 prime factors.
8. **Composite** 15 is composite (has more than two factors).
9. **8** 24 has these factors: 1, 2, 3, 4, 6, 8, 12, 24 - that is 8.
10. **No** $43 \div 2$ does not divide evenly, so 2 is not a factor.
11. **5** 5 divides 25 evenly ($25 \div 5 = 5$), and nothing smaller than 5 (except 1) does.
12. **$2 \times 2 \times 7$** Multiplying the leaves: $2 \times 2 \times 7 = 28$.
13. **3** $8 = 2 \times 2 \times 2$ - that is 3 prime factors.
14. **Prime** 23 is prime (only factors 1 and itself).
15. **9** 36 has these factors: 1, 2, 3, 4, 6, 9, 12, 18, 36 - that is 9.
16. **Yes** $27 \div 3 = 9$ with no remainder, so 3 is a factor.
17. **3** 3 divides 15 evenly ($15 \div 3 = 5$), and nothing smaller than 3 (except 1) does.
18. **$2 \times 2 \times 2 \times 5$** Multiplying the leaves: $2 \times 2 \times 2 \times 5 = 40$.