Prime Factors

Mana Maths

Te reo Māori terms

tau toitū
prime number
Open in Te Aka

tauwehe
factor
Open in Te Aka

hua whakawhiti
product
Open in Te Aka

taupū
exponent
Open in Te Aka

Prime Factors — Foundation

1. Circle the prime numbers: $2, 4, 5, 6, 7, 9$.

2. Circle the prime numbers: $11, 12, 13, 15, 17, 21$.

3. Write 12 as a product of primes.

4. Write 18 as a product of primes.

5. Write 20 as a product of primes.

6. Write 27 as a product of primes.

7. Complete: $24 = 2 \times \square \times \square \times \square$.

8. Complete: $30 = 2 \times 3 \times \square$.

9. Complete: $45 = 3 \times 3 \times \square$.

10. Write the prime factorisation of 28 in index form.

11. Write the prime factorisation of 50 in index form.

12. Which is the prime factorisation of 36: 6×6 or $2^2 \times 3^2$?

13. Which is the prime factorisation of 42: 7×6 or $2 \times 3 \times 7$?

14. True or false: 1 is a prime number.

Prime Factors — Proficient

1. Write 32 in prime factors.

2. Write 54 in prime factors.

3. Write 72 in prime factors.

4. Write 90 in prime factors.

5. Complete: $84 = 2^2 \times 3 \times \square$.

6. Complete: $98 = 2 \times 7 \times \square$.

7. Which has more 2s: 48 or 56?

8. Which has more 3s: 54 or 72?

9. True or false: $75 = 3 \times 5^2$.

10. True or false: $96 = 2^5 \times 3$.

11. Find the number: $2^3 \times 5$.

12. Find the number: $2 \times 3^2 \times 7$.

13. Write 100 in prime factors.

14. Write 126 in prime factors.

Prime Factors — Excellence

1. Is $40 = 4 \times 10$ a prime factorisation?

2. Is $63 = 3^2 \times 7$ correct?

3. Greater number: $2^3 \times 3$ or 2×3^2?

4. Greater number: $2^4 \times 3$ or $2^2 \times 3^2$?

5. More 5s: $2^3 \times 5$ or 2×5^2?

6. Find n: $n = 2^2 \times 3 \times 5$.

7. Complete: $84 = 2^2 \times 3 \times 7$, so $168 = 2^{\square} \times 3 \times 7$.

8. Prime factors of 180.

9. Prime factors of 210.

10. Find the number: $2^2 \times 3 \times 11$.

11. If $36 = 2^a \times 3^2$, find a.

12. If $56 = 2^3 \times p$, find p.