

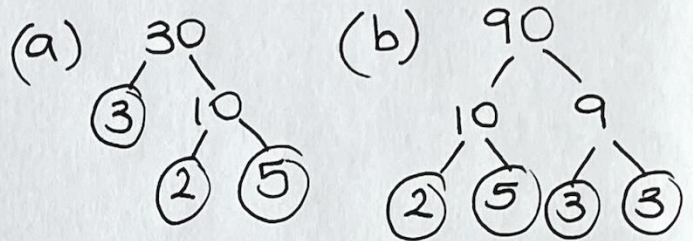
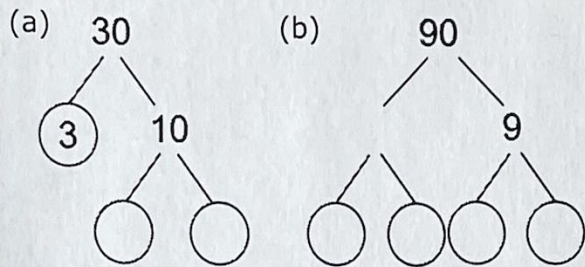
Prime Factors and Factor Trees

Write each of these numbers as a product of its prime factors:

- (a) 6 (b) 8 (c) 15
(d) 12 (e) 14 (d) 20

- (a) 2×3 (b) $2 \times 2 \times 2$
(c) 3×5 (d) $2 \times 2 \times 3$
(e) 2×7 (f) $2 \times 2 \times 5$

Complete these factor trees:



By drawing a factor tree, write each of these numbers as a product of its prime factors:

- (a) 56 (b) 60
(c) 75 (d) 78
(e) 80 (f) 115

- (a) $2 \times 2 \times 2 \times 7$ (b) $2 \times 2 \times 3 \times 5$
(c) $3 \times 5 \times 5$ (d) $2 \times 3 \times 13$
(e) $2 \times 2 \times 2 \times 2 \times 5$ (f) 5×23

As a product of its primes, what number is given by:

- (a) $2 \times 5 \times 11$
(b) $3 \times 3 \times 5$
(c) $2 \times 5 \times 7$
(d) $2 \times 2 \times 3 \times 3 \times 5$

- (a) 110
(b) 45
(c) 70
(d) 180

For each of these numbers, draw a factor tree and write as a product of its prime factors.

- (a) 9 (b) 25 (c) 36

What do you notice?

- (a) 3×3
(b) 5×5
(c) $2 \times 2 \times 3 \times 3$

The prime factors are in pairs

As a product of its prime factors, $120 = 2 \times 2 \times 2 \times 3 \times 5$. How could you use this information to find all the factors of 120?

Split into 2 and $2 \times 2 \times 3 \times 5$
3 and $2 \times 2 \times 2 \times 5$
etc