

Exercise 1.5

answers on p. 418

No calculators may be used.

1. Find the HCF of each of the following pairs of numbers.

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|--------------|----------------|-------------|
| (a) 8, 9 | (b) 11, 13 | (c) 12, 42 |
| (d) 15, 16 | (e) 15, 27 | (f) 15, 42 |
| (g) 15, 60 | (h) 15, 63 | (i) 16, 56 |
| (j) 18, 45 | (k) 20, 21 | (l) 24, 19 |
| (m) 24, 48 | (n) 24, 108 | (o) 28, 54 |
| (p) 36, 162 | (q) 36, 243 | (r) 42, 36 |
| (s) 42, 63 | (t) 45, 42 | (u) 60, 84 |
| (v) 96, 36 | (w) 108, 48 | (x) 165, 99 |
| (y) 425, 200 | (z) 546, 1 521 | |

2. Find the HCF of each of the following sets of numbers.

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|-----------------------|-----------------------|-----------------------|
| (a) 4, 5, 9 | (b) 12, 42, 72 | (c) 16, 72, 104 |
| (d) 35, 420, 245 | (e) 47, 9, 25 | (f) 4, 5, 7, 9 |
| (g) 24, 156, 180, 204 | (h) 30, 126, 105, 255 | (i) 96, 144, 136, 344 |

*3. The HCF of two numbers is 12. If the sum of the two numbers is 72, find the numbers.

*4. The HCF of two numbers is 8. If the sum of the two numbers is 72, find the numbers. (Give all the possible pairs of numbers.)

Answers

- (d) 2×3^2 (e) $2^2 \times 5$ (f) $2^2 \times 3^2$
 (g) $2^4 \times 3$ (h) $2^3 \times 3^2$ (i) $2^4 \times 3^2$
 (j) 2^8

3. (a) 3×3 (b) $2 \times 2 \times 3$
 (c) 3×7 (d) $2 \times 2 \times 2 \times 3$
 (e) $2 \times 3 \times 5$ (f) $2 \times 3 \times 7$
 (g) $2 \times 2 \times 3 \times 3 \times 3$ (h) $5 \times 5 \times 5$
 (i) $2 \times 2 \times 2 \times 3 \times 3 \times 3$
 (j) $2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3$

4. (a) 97 (b) 119 (c) 149
 (d) 199

Exercise 1.5 (p. 15)

1. (a) 1 (b) 1 (c) 6
 (d) 1 (e) 3 (f) 3
 (g) 15 (h) 3 (i) 8
 (j) 9 (k) 1 (l) 1
 (m) 24 (n) 12 (o) 2
 (p) 18 (q) 9 (r) 6
 (s) 21 (t) 3 (u) 12
 (v) 12 (w) 12 (x) 33
 (y) 25 (z) 39
2. (a) 1 (b) 6 (c) 8
 (d) 35 (e) 1 (f) 1
 (g) 12 (h) 3 (i) 8
3. 12, 60
4. 8, 64; 16, 56; 32, 40

Exercise 1.6 (p. 17)

1. (a) 34 (b) 15 (c) 36
 (d) 60 (e) 18 (f) 12
 (g) 30 (h) 24 (i) 36
 (j) 60 (k) 42 (l) 45
 (m) 60 (n) 80 (o) 144
 (p) 18 (q) 72 (r) 100
 (s) 2 184 (t) 2 025 (u) 1 188
 (v) 2 310 (w) 8 190 (x) 1 080
 (y) 5 208 (z) 28 700
2. (a) 72 (b) 1 440 (c) 72
 (d) 80 (e) 180 (f) 72
 (g) 61 425 (h) 1 540 (i) 6 300
3. (a) (i) 7 (ii) 28 (iii) 196
 (b) (i) 6 (ii) 36 (iii) 216
 (c) (i) 1 (ii) 420 (iii) 420

- (d) (i) 24 (ii) 480 (iii) 11 520

The product of the HCF and LCM of each pair of numbers is equal to the product of the respective pair of numbers.

4. 8 5. 7, 13 or 1, 91

Exercise 1.7 (p. 20)

1. (a) 25, 36 (b) 15, 21 (c) 13, 16
 (d) 32, 64 (e) 29, 35 (f) 125, 216
2. (a) 27, 32; Beginning with 2, each term is 5 more than the previous term.
 (b) 243, 729; Beginning with 1, each term is 3 times the previous term.
 (c) 56, 51; Beginning with 81, each term is 5 less than the previous term.
 (d) 15, 21; Beginning with 3, each 'odd term' is 4 more than the previous 'odd term', and beginning with 9, each 'even term' is 4 more than the previous 'even term'.
 (e) 12, 6; Beginning with 384, each term is $\frac{1}{2}$ of the previous term.
 (f) 18, 21; Beginning with 6, each term is 3 more than the previous term, or, consecutive multiples of 3 beginning with 6.
3. (a) 30, 45; Each term is the corresponding triangular number multiplied by 3.
 (b) 16, 25; Consecutive square numbers beginning with 1.
4. (a) 40, 60; Each term is the corresponding triangular number multiplied by 4.
 (b) 16, 25; Consecutive square numbers beginning with 1.
5. (a) For each sequence, each term is twice the previous term.
 (b) 7, 21, 35
 (c) The sum of the first three terms is seven times the first term.
 (d) 7, 14, 28

Exercise 1.8 (p. 24)

1. 4, 8, 10, 12, 14, 16, 18
 Press '2' once and 'x' twice.
 Press input number and '=' to find output number.
2. 7, 9, 13, 15, 17, 19, 21
3. $a + 7 = b$
 Press '7' once and '+' twice.
 Press input number and '=' to find output number.