1. Number System

Exercise 1A

1. Write the number between 3456 and 3466.
2. Write the numeral for each of the following numbers:
   (a) Nine thousand eighteen
   (b) Fifty-four thousand seventy-three
   (c) Three lakh two thousand five hundred six
   (d) Twenty lakh ten thousand eight
   (e) Six crore five lakh fifty-seven
   (f) Two crore two lakh two thousand two hundred two
   (g) Twelve crore twelve lakh twelve thousand twelve
   (h) Fifteen crore fifty lakh twenty thousand sixty-eight
3. Write each of the following numbers in words:
   (a) 63,005 (b) 7,07,075 (c) 34,20,019
   (d) 3,05,09,012 (e) 5,10,03,604 (f) 6,18,05,008
   (g) 19,09,09,900 (h) 6,15,30,807 (i) 6,60,60,060
4. Write each of the following numbers in expanded form:
   (a) 15,768 (b) 3,08,927 (c) 24,05,609
   (d) 5,36,18,493 (e) 6,06,06,006 (f) 9,10,10,510
5. Write the corresponding numeral for each of the following:
   (a) $6 \times 10000 + 2 \times 1000 + 5 \times 100 + 8 \times 10 + 4 \times 1$
   (b) $5 \times 10000 + 8 \times 1000 + 1 \times 100 + 6 \times 10 + 2 \times 1$
   (c) $2 \times 10000 + 5 \times 1000 + 7 \times 100 + 9 \times 10 + 5 \times 1$
   (d) $3 \times 1000000 + 4 \times 100000 + 6 \times 1000 + 5 \times 100$
6. Write the number coming just before and coming after the given number:
   (a) 42678 (b) 998866 (c) 124680 (d) 87654
7. Write the next three whole numbers after 30999.
8. Write the three whole numbers occurring just before 10001.
9. How many whole numbers are there between 1032 and 1209?
10. Insert commas suitably and write the names according to Indian System of Numeration and International System of Numeration:
    (a) 87595762 (b) 8546283 (c) 99900046
    (d) 98432701 (e) 78921092 (f) 7452283
11. Arrange the following numbers in ascending order:
    (a) 878787877, 696969696, 9996655, 8790001
    (b) 12345789, 21345689, 113456789, 223456789
    (c) 19000919, 192000009, 191900009, 10999909
    (d) 223344556, 3000000, 209999999, 222998877
12. Arrange the following numbers in descending order:
    (a) 787878787, 969696966, 55566699, 78900002
    (b) 98764321, 987654312, 98765311, 987654322
    (c) 91900009190000092, 90009191, 909999901
    (d) 778899222, 999999902, 9000000, 778899221
13. (a) Write all the possible numbers of three digits using 2, 5 and 1.
    (b) Write all the possible three-digit numbers using 3, 4 and 6.
    (c) Write all the possible numbers of three digits using 8, 9 and 7.
14. (a) Write the greatest number of 4 digits using 1,0,9 and 2.
    (b) Write the greatest five-digit number using 9, 1 , 0, 3 and 1.
    (c) Write the greatest number of six digits using 8, 9, 6, 5, 0 and 4.
15. Write the successor of:
    (a) 2540801 (b) 9999 (c) 50904 (d) 61639
    (e) 687890 (f) 5386700 (g) 6475999 (h) 9999999
16. Write the predecessor of:
    (a) 97 (b) 10000 (c) 36900 (d) 7684320
    (e) 1566391 (f) 2456800 (g) 100000 (h) 1000000

Exercise 1B

1. Express each of the following as a Roman numeral:
   (a) 43 (b) 54 (c) 61 (d) 73 (e) 81 (f) 91
   (g) 95 (h) 99 (i) 105 (j) 114 (k) 164 (l) 195
   (m) 226 (n) 341 (o) 475 (p) 596 (q) 611 (r) 759
2. Write each of the following as a Hindu-Arabic numeral:
   (a) XXXIV (b) XLV (c) LIV (d) LXXIV
   (e) XCI (f) XCVI (g) CXI (h) CLIV
   (i) CCXXIV (j) CCCLXV (k) CDXIV (l) CDLXIV
   (m) DVI (n) DCCLXVI
3. Show that each of the following is meaningless. Give reason in each case.
   (a) VC (b) IL (c) VVII (d) IXX

Exercise 1C

Add:

1. (a) 34120 + 45230 (b) 62507 + 4092
   (c) 40065 + 38713 (d) 87654 + 321
   (e) 80704 + 3203 (f) 341125 + 124563
   (g) 415306 + 372002 (h) 53724 + 612053
2. (a) 43265 + 12521 + 24012
   (b) 63143 + 2512 + 1133
   (c) 234567 + 42012 + 3220
   (d) 24 + 241 + 2310 + 24302
   (e) 123456 + 12332 + 1210 + 2001
   (f) 5 + 51 + 510 + 87103
3. (a) 62402 + 24659 (b) 52876 + 58693
   (c) 74251 + 3969 (d) 4875 + 92665
   (e) 936 + 52186 (f) 265849 + 373246
   (g) 527496 + 236540 (h) 43857 + 649763
   (i) 456456 + 367890 (j) 1234567 + 8907865
4. (a) 4567 + 34567 + 234567
   (b) 56784 + 7654 + 456
   (c) 24680 + 678901 + 213140
   (d) 13579 + 24680 + 50321 + 11892
   (e) 567897 + 43211 + 189458 + 219
   (f) 66556 + 4446 + 336 + 26
   (g) 77889908 + 7543217 + 85685685
   (h) 4488997 + 3322115 + 5544332

(i) 11889966 + 5566787 + 95087654 + 32100645
(j) 7788665 + 2223334 + 5567890 + 6565656

Subtract

5. (a) 76765 from 94320 (b) 464646 from 853420
6. (a) 8789 - 4506 (b) 99887 - 55443
(c) 66543 - 42310 (d) 4436 - 12345
(e) 61524 - 31312 (f) 95468 - 3125
(g) 678953 - 215432 (h) 554433 - 221103
(i) 789987 - 112283 (j) 654321 - 321211
(k) 876655 - 443322 (l) 653105 - 41004
7. (a) 97654 - 38799 (b) 55443 - 16744
(c) 67895 - 28996 (d) 78978 - 29989
(e) 34567 - 2089 (f) 10000 - 2345
(g) 545454 - 167895 (h) 666555 - 277896
(i) 607054 - 129765 (j) 330065 - 148978
(k) 100000 - 12345 (l) 226655 - 789
(m) 780605 - 391236 (n) 4321657 - 1432987
(o) 65656565 - 16768687 (p) 3322117 - 2424248
(q) 7895432 - 1689654 (r) 10060708 - 1278909

Do these sums:

8. (a) 8 - 2 + 3 (b) 7 + 3 - 5
(c) 15 + 12 - 14 (d) 81 + 87 - 69
(e) 182 - 97 + 49 (f) 248 - 132 - 15
(g) 289 - 195 + 234 (h) 527 + 419 - 497
(i) 1825 + 380 - 1567 (j) 1250 + 495 - 321 - 157
(k) 298 + 596 - 293 - 392 (l) 1089 - 197 - 47 + 1256
9. (a) 503 - 1437 - 246 + 1375 - 95
(b) 10000 - 999 + 8888 - 6665 + 777 - 555
(c) 656666 + 432141 - 765432
(d) 7899876 - 5898999 + 3213213
(e) 52345678 - 43216789 + 56565656
(f) 96596596 - 56432107 - 12340087

Multiply:

10. (a) 12 × 20 (b) 13 × 30 (c) 15 × 40 (d) 16 × 50
(e) 36 × 20 (f) 11 × 80 (g) 101 × 70 (h) 111 × 60
(i) 201 × 90 (j) 301 × 90 (k) 12 × 200 (l) 15 × 300
(m) 16 ×(n) 17 × 700 (o) 76 × 100 (p) 89 × 200
400
11. (a) 102 × 400 (b) 111 × 500 (c) 101 × 600
(d) 102 × 800 (e) 111 × 900 (f) 201 × 900
(g) 124 × 200 (h) 11 × 1000 (i) 12 × 2000
(j) 13 × 3000 (k) 14 × 4000 (l) 15 × 5000
(m) 16 × 6000 (n) 17 × 7000 (o) 12 × 8000
(p) 11 × 9000 (q) 132 × 1000 (r) 1234 × 10
12. (a) 22 × 13 (b) 34 × 12 (c) 33 × 13 (d) 56 × 11
(e) 63 × 11 (f) 99 × 11 (g) 102 × 33 (h) 123 × 13
(i) 213 × 13 (j) 412 × 12 (k) 506 × 11 (l) 456 × 34
(m) 14 × 28 (n) 26 × 13 (o) 37 × 35 (p) 43 × 51
13. (a) 543 × 61 (b) 637 × 72 (c) 897 × 82
(d) 985 × 79 (e) 999 × 99 (f) 141 × 21
(g) 324 × 22 (h) 567 × 11 (i) 321 × 312
(j) 432 × 221 (k) 332 × 323 (l) 134 × 202
(m) 313 × 103 (n) 657 × 101 (o) 1011 × 15
(p) 2013 × 13 (q) 3013 × 13 (r) 4004 × 12
(s) 1233 × 123 (t) 3321 × 332 (u) 4567 × 111
(v) 375 × 25 (w) 2408 × 79 (x) 1357 × 86
14. (a) 4132 × 27 (b) 6309 × 36 (c) 23008 × 95
(d) 3688 × 456 (e) 7089 × 789 (f) 60878 × 808
(g) 2308 × 8032 (h) 1234 × 4321 (i) 81009 × 8989
(j) 1478 × 5000 (k) 94 × 70000 (l) 79 × 12000
(m) 12 × 3 × 4 (n) 3 × 4 × 15 (o) 20 × 5 × 6 × 8
15. (a) 1235 by 38 (b) 3167 by 74 (c) 4257 by 45
(d) 6389 by 69 (e) 2331 by 302 (f) 5678 by 101
16. (a) 4 × 5 - 3 × 2 (b) 8 × 2 - 4 × 3
(c) 7 × 8 - 6 × 4 + 5 × 3 (d) 10 × 5 - 12 × 7 + 8 × 9
(e) 9 × 7 - 5 × 9 - 4 × 3 (f) 18 × 5 - 8 × 7 - 6 × 2
(g) 11 × 10 + 3 × 5 - 15 × 8
(h) 15 × 8 + 10 × 8 - 20 × 10
(i) 102 - 12 × 7 + 22 - 4 × 9
(j) 420 - 16 × 5 - 7 × 8 - 14 × 5

Find the quotient and the remainder.

17. (a) 88 ÷ 11 (b) 84 ÷ 12 (c) 91 ÷ 13 (d) 126 ÷ 15
(e) 144 ÷ 16 (f) 902 ÷ 11 (g) 975 ÷ 15 (h) 848 ÷ 16
(i) 588 ÷ 28 (j) 814 ÷ 37 (k) 686 ÷ 49
18. (a) 92053 ÷ 13 (b) 11948 ÷ 29 (c) 23138 ÷ 46
(d) 12084 ÷ 57 (e) 81162 ÷ 81 (f) 72000 ÷ 96
19. (a) 807 ÷ 26 (b) 737 ÷ 35 (c) 487 ÷ 44 (d) 608 ÷ 55
(e) 828 ÷ 75 (f) 969 ÷ 88
20. (a) 7309 ÷ 36 (b) 2078 ÷ 67 (c) 3319 ÷ 79
(d) 2700 ÷ 84 (e) 3670 ÷ 99 (f) 19877 ÷ 38
(g) 28090 ÷ 45 (h) 78 ÷ 10 (i) 456 ÷ 10
(j) 2034 ÷ 10 (k) 98070 ÷ 10 (l) 234 ÷ 100
(m) 9807 ÷ 100 (n) 50123 ÷ 100
(o) 436510 ÷ 100
21. (a) 3629 ÷ 1000 (b) 78096 ÷ 1000
(c) 123456 ÷ 1000 (d) 6003137 ÷ 1000
22. (a) 140 ÷ 20 (b) 270 ÷ 30 (c) 320 ÷ 40
(d) 200 ÷ 50 (e) 1760 ÷ 80 (f) 9810 ÷ 90
(g) 8400 ÷ 50 (h) 170 ÷ 20 (i) 280 ÷ 30
(j) 230 ÷ 40 (k) 440 ÷ 50 (l) 450 ÷ 60
(m) 500 ÷ 70 (n) 1780 ÷ 80 (o) 1840 ÷ 90
(p) 999 ÷ 111 (q) 861 ÷ 123 (r) 996 ÷ 249
(s) 616 ÷ 308 (t) 846 ÷ 423 (u) 898 ÷ 449
23. (a) 1668 ÷ 139 (b) 5564 ÷ 428 (c) 6666 ÷ 606
(d) 7777 ÷ 707 (e) 9708 ÷ 809 (f) 9977 ÷ 907
(g) 17952 ÷ 187 (h) 21361 ÷ 521 (i) 20979 ÷ 777
(j) 15920 ÷ 199 (k) 264240 ÷ 367
24. (a) 669 ÷ 167 (b) 820 ÷ 272 (c) 819 ÷ 409
(d) 7345 ÷ 612 (e) 9333 ÷ 717 (f) 8855 ÷ 805
(g) 74296 ÷ 123 (h) 81278 ÷ 789 (i) 85877 ÷ 423
25. (a) 78669 ÷ 67 (b) 841231 ÷ 38
(c) 618974 ÷ 56 (d) 1223456 ÷ 82
(e) 63143901 ÷ 44 (f) 12345006 ÷ 81
26. (a) 87212 ÷ 123 (b) 81376 ÷ 789
(c) 806873 ÷ 637 (d) 898420 ÷ 358
(e) 3158795 ÷ 441 (f) 3159569 ÷ 839
27. (a) 348043 ÷ 1324 (b) 5820635 ÷ 2875
(c) 27654321 ÷ 4831 (d) 610050029 ÷ 8012
(e) 333112 ÷ 2119 (f) 6880380 ÷ 8400
28. (a) 4256328 ÷ 1000 (b) 3604285 ÷ 10000
(c) 810563 ÷ 3000
29. Simplify:
(a) 16 ÷ 2 of 8 (b) 16 ÷ 2 × 8
(c) 16 of 4 ÷ 2 (d) 16 × 8 ÷ 4
(e) 322 × 3773 ÷ 343 (f) 4875 ÷ 195 × 480
(g) 4900 ÷ 350 × 145
(h) 20 ÷ 2 - 10 × 2 + 5 of 4 ÷ 5 + 20

(i) 25 ÷ 5 of 5 × 2 of 3 + 7 - 6
(j) 125 of 4 ÷ 10 of 5 - 9 of 7 + 160 ÷ 2
(k) 12 ÷ 4 of 3 ÷ 7 - 2 × 4
(l) 220 + 24 × 60 - 1089 ÷ 99
(m) 220 + 24 of 60 - 1089 ÷ 99
(n) 3960 ÷ 264 + 5742 ÷ 522 × 30
(o) 3125 ÷ 125 - 2055 ÷ 411 - 20

30. Simplify the following:
(a) (16 + 12) - (2 × 6) (b) 84 ÷ (72 ÷ 6)
(c) (83 - 38) × 15 (d) (20 × 8) ÷ (10 of 4)
(e) 24 + 15 ÷ 3 × (4 - 2)
(f) (15 × 3) ÷ 5 × 8 - 2 + 6 × (8 - 2)
31. Simplify the following and verify whether they are equal.
(a) 12 × 6 ÷ 3 and 12 × (6 ÷ 3)
(b) (11 × 8) - 6 and 11 × (8 - 6)
32. Simplify the following:
(a) 5 × {19 - (15 - 6)} (b) 20 + {5 × (72 - 42)}
(c) 40 - {(17 - 3) ÷ (20 - 13)}
(d) (30 ÷ 10) + {(6 × 12) ÷ 8}
(e) {7 + (5 × 3)} - 12 + 6 of 3

Exercise 1D

1. Round each of the following numbers to the nearest ten:
(a) 36 (b) 173 (c) 3869 (d) 16378
2. Round each of the following numbers to the nearest hundred:
(a) 814 (b) 1254 (c) 43126 (d) 98165
3. Round each of the following numbers to the nearest thousand:
(a) 793 (b) 4826 (c) 16719 (d) 28394
4. Round each of the following numbers to the nearest ten thousand:
(a) 17514 (b) 26340 (c) 34890 (d) 272685
5. Estimate each sum to the nearest ten:
(a) (57 + 34) (b) (43 + 78) (c) (14 + 69)
(d) (86 + 19) (e) (95 + 58) (f) (77 + 63)
(g) (356 + 275) (h) (463 + 182) (i) (538 + 276)
6. Estimate each sum to the nearest hundred:
(a) (236 + 689) (b) (458 + 324)
(c) (170 + 395) (d) (3280 + 4395)
(e) (5130 + 1410) (f) (10083 + 29380)
7. Estimate each sum to the nearest thousand:
(a) (52836 + 16466) (b) (46703 + 11375)
8. Estimate each difference to the nearest ten:
(a) (53 - 18) (b) (97 - 38) (c) (409 - 148)
9. Estimate each difference to the nearest hundred:
(a) (957 - 578) (b) (7258 - 2429) (c) (5612 - 3095)
10. Estimate each difference to the nearest thousand:
(a) (35863 - 27677) (b) (47005 - 39488)
11. Estimate each of the following products by rounding off each number to the nearest ten:
(a) 38 × 63 (b) 54 × 47 (c) 28 × 63
(d) 42 × 75 (e) 64 × 58 (f) 15 × 34
12. Estimate each of the following products by rounding off each number to the nearest hundred:
(a) 376 × 123 (b) 264 × 147 (c) 423 × 158
(d) 509 × 179 (e) 392 × 138 (f) 271 × 339
13. Estimate each of the following products by rounding off the first number upwards and the second number downwards:
(a) 183 × 154 (b) 267 × 146 (c) 359 × 76
(d) 472 × 158 (e) 680 × 164 (f) 255 × 350
14. Estimate each of the following products by rounding off the first number downwards and the second number upwards:
(a) 356 × 278 (b) 472 × 76 (c) 578 × 369
15. Find the estimated quotient for each of the following:
(a) 75 ÷ 23 (b) 193 ÷ 24 (c) 725 ÷ 23 (d) 275 ÷ 25
(e) 633 ÷ 33 (f) 729 ÷ 29 (g) 858 ÷ 39 (h) 868 ÷ 38

Exercise 1E

1. Write down all the factors of
(a) 20 (b) 36 (c) 60 (d) 75
2. Write the first five multiples of each of the following numbers:
(a) 17 (b) 23 (c) 65 (d) 70
3. Which of the following numbers are even and which are odd?
(a) 37 (b) 50 (c) 58 (d) 69 (e) 144 (f) 321 (g) 253
4. Find which of the following numbers are primes:
(a) 87 (b) 89 (c) 63 (d) 91 (e) 103 (f) 137
(g) 161 (h) 179 (i) 217 (j) 277 (k) 331 (l) 397
5. In each of the following, find the smallest number that should be added to the number to get a number disible by 5.
(a) 1456 (b) 43217 (c) 900003
6. In each of the following, find the smallest number that should be subtracted from the number to get a number disible by 10.
(a) 1234 (b) 45679 (c) 900093
7. Using divisibility tests, determine which of the following numbers are divisible by 2; by 3; by 4; by 5; by 6; by 8; by 9; by 10 ; by 11; by 12; by 15 (say, yes or no):
2650, 69435, 59628, 789403, 357986, 367314, 733, 10038, 20701, 524781, 79124, 872645, 618, 2314, 63712, 35056, 946126, 810524, 4965, 23590, 35208, 723405, 124684, 438750, 2070, 46523, 71232, 934706, 251780, 872536, 826, 117, 2345, 6021, 14126, 25368, 9364, 2138, 36792, 901674, 136976, 1790184, 2358, 3333, 98712, 257106, 647514, 326999, 5790, 63215, 55555, 4334, 83721, 66311, 137269, 901351, 8790322, 129, 4896, 79968, 123452, 390, 7825, 90875, 123450, 28, 316, 2456, 9026
8. Which each of the following numbers, replace * by the smallest number to make it divisible by 3:
(a) 27*4 (b) 53*46 (c) 8*711
(d) 62*35 (e) 234*17 (f) 6* 1054
9. In each of the following numbers, replace * by the smallest number to make it divisible by 9:
(a) 65*5 (b) 2*135 (c) 6702*
(d) 91*67 (e) 6678*1 (f) 835*86

10. In each of the following numbers, replace * by the smallest number to make it divisible by 11:
    (a) 26*5 (b) 39*43 (c) 86*72
    (d) 467*91 (e) 1723*4 (f) 9*8071
11. Find the common factors of :
    (a) 20, 28 (b) 15, 25 (c) 35, 50
    (d) 56, 120 (e) 4, 8, 12 (f) 5, 15, 25
12. Find first three common multiples of :
    (a) 6, 8 (b) 12, 18 (c) 16, 18, 24
13. Give the prime factorization of each of the following numbers:
    (a) 12 (b) 18 (c) 48 (d) 56 (e) 90
    (f) 136 (g) 252 (h) 420 (i) 637 (j) 945
    (k) 1224 (l) 1323 (m) 8712 (n) 9317 (o) 1035
    (p) 1197 (q) 4641 (r) 4335 (s) 2907 (t) 13915
14. Find, by inspection, the HCF of the following pairs of numbers:
    (a) 6, 9 (b) 8, 12 (c) 10, 15 (d) 16, 24
    (e) 30, 40 (f) 22, 33 (g) 11, 15 (h) 13, 8
15. Find the HCF by finding factors:
    (a) 9, 12 (b) 10, 25 (c) 35, 49 (d) 4, 6, 8
    (e) 6, 9, 15 (f) 8, 12, 16 (g) 18, 24, 32

Using Euclid's division algorithm, find the HCF of (using the division method)

16. (a) 58, 70 (b) 399, 437 (c) 390, 663
    (d) 856, 936 (e) 837, 1134 (f) 504, 5292
    (g) 775, 1800 (h) 7625, 8175 (i) 1020, 11594
    (j) 5610, 10465 (k) 12350, 6845 (l) 10568, 9247
    (m) 3536, 33150 (n) 1965, 2096 (o) 2241, 2324
17. (a) 256, 442, 940 (b) 192, 576, 1760
    (c) 639, 873, 747 (d) 612, 816, 448
    (e) 176, 1100, 4444 (f) 808, 568, 1112
    (g) 432, 1134, 1347 (h) 345, 726, 531
    (i) 658, 940, 1128 (j) 754, 1508, 1972
    (k) 391, 425, 527 (l) 1794, 2346, 4761
18. (a) 1233, 726, 531, 345
    (b) 1326, 3094, 4420, 5577
19. Which of the following numbers are co-prime?
    (a) 18, 35 (b) 15, 37 (c) 17, 68 (d) 81, 16
    (e) 59, 97 (f) 30, 415 (g) 216, 215 (h) 161, 192
    (i) 343, 432 (j) 512, 945 (k) 385, 621 (l) 847, 1014
20. Find, by inspection, the LCM of each pair of numbers:
    (a) 2, 4 (b) 3, 6 (c) 4, 8 (d) 6, 12
    (e) 5, 10 (f) 9, 3 (g) 20, 10 (h) 6, 10
    (i) 6, 16 (j) 12, 16 (k) 10, 15 (l) 12, 18

Find the LCM of the numbers by division:

21. (a) 160, 100 (b) 12, 18, 90 (c) 45, 35, 21
    (d) 21, 63, 105 (e) 64, 96, 112
22. (a) 15, 45, 125, 225 (b) 44, 126, 198, 280
    (c) 12, 36, 16, 24, 32 (d) 4, 6, 8, 12, 18, 90
    (e) 16, 90, 91 , 280, 455

Using prime factorisation, find the HCF and LCM of:

23. (a) 4, 6 (b) 6, 9 (c) 8, 12 (d) 4, 22
    (e) 4, 26 (f) 6, 21 (g) 6, 27 (h) 8, 28
    (i) 10, 25 (j) 15, 25 (k) 25, 80 (l) 42, 63
    (m) 60, 75 (n) 45, 30 (o) 45, 75 (p) 54, 81
    (q) 64, 80 (r) 84, 98 (s) 64, 80 (t) 30, 105
    (u) 58, 174 (v) 72, 126 (w) 75, 120 (x) 110, 88
24. (a) 165, 275 (b) 480, 720 (c) 140, 196
    (d) 352, 192 (e) 420, 360 (f) 204, 255
    (g) 117, 221 (h) 234, 572 (i) 145, 232
    (j) 693, 1078 (k) 861, 1353 (l) 2923, 3239
25. (a) 8, 16, 14 (b) 10, 12, 36 (c) 12, 15, 21
    (d) 12, 36, 48 (e) 25, 40, 60 (f) 45, 84, 90
    (g) 54, 60, 90 (h) 13, 39, 65 (i) 12, 18, 20
    (j) 36, 60, 72 (k) 25, 30, 40 (l) 42, 36, 21
    (m) 26, 14, 91 (n) 17, 23, 29 (o) 24, 36, 40
26. (a) 56, 42, 140 (b) 21 ,63, 105 (c) 36, 40, 126
    (d) 21, 27, 189 (e) 30, 72, 432 (f) 44, 121, 132
    (g) 72, 108, 180 (h) 84, 120, 138 (i) 45, 125, 225
    (j) 106, 159, 371 (k) 144, 252, 630 (l) 144, 180, 384
27. (a) 240, 320, 360 (b) 128, 136, 512
    (c) 540, 315, 360 (d) 216, 324, 1350
    (e) 1197, 5320, 4389 (f) 21, 28, 36, 45
    (g) 16, 28, 40, 77 (h) 28, 36, 45, 60
    (i) 36, 60, 84, 90 (j) 48, 64, 72, 96, 108
28. For each pair of numbers, verify that their product = (HCF x LCM).
    (a) 87, 145 (b) 186, 403 (c) 490, 1155
29. Find the simplest form of:
    (a) $\frac{161}{207}$ (b) $\frac{517}{799}$ (c) $\frac{296}{481}$ (d) $\frac{1095}{1168}$
30. Find the greatest number that will divide 24 and 36 without leaving a remainder.
31. Find the greatest number that will divide 22, 33 and 44 without leaving a remainder.
32. Find the greatest number that will divide 33 and 45 leaving a remainder 9 in each case.
33. What is the largest number that will divide 61, 33 and 75 leaving Sas remainder In each case?
34. Find the greatest number that will divide 39, 52 and 65 leaving remainders 3, 4 and 5 respectively.
35. Find the least number which when divided by 12 and 18, leaves no remainder.
36. Find the least number which is exactly divisible by each of the numbers 6, 15 and 18.
37. Find the least number which when divided by 15 and 25, leaves 1 as remainder in each case.
38. Find the least number which when divided by 18 and 12, leaves 5 as remainder in each case.
39. The product of two numbers is 48 and their HCF is 2. Find their LCM.
40. The product of two numbers is 875 and their HCF is 5. Find their LCM.
41. The product of two numbers is 108 and their LCM is 36. Find their HCF.
42. The product of two numbers is 216 and their LCM is 36. Find their HCF.
43. The HCF of two numbers is 3 and their LCM is 36. If one of the numbers is 12, find the other number.
44. The HCF of two numbers is 8 and their LCM is 96. If one of the numbers is 24, find the other number.

Answer

Exercise 1A

1. 3457
2. (a) 9018
   (b) 54073
   (c) 751800000
   (d) 20016000000
   (e) 1710000000000000
   (f) 8808000000000000
   (g) 1729728000000000000
   (h) 15051000000000000000
3. (a) sixty-three thousand, five
   (b) seven hundred seven thousand, seventy-five

Exercise 1C

1. (a) 79350 (b) 66599 (c) 78778 (d) 87975
   (e) 83907 (f) 465688 (g) 787308 (h) 665777
2. (a) 79798 (b) 66788 (c) 279799 (d) 26877
   (e) 138999 (f) 87669
3. (a) 87061 (b) 111569 (c) 78220 (d) 97540
   (e) 53122 (f) 639095 (g) 764036 (h) 693620
   (i) 824346 (j) 10142432
4. (a) 273701 (b) 64894 (c) 916721
   (d) 100472 (e) 800785 (f) 71364
   (g) 171118810 (h) 13355444 (i) 144645052
   (j) 22145545
5. (a) 17555 (b) 388774
6. (a) 4283 (b) 44444 (c) 24233 (d) -7909
   (e) 30212 (f) 92343 (g) 463521 (h) 333330
   (i) 677704 (j) 333110 (k) 433333 (l) 612101
7. (a) 58855 (b) 38699 (c) 38899
   (d) 48989 (e) 32478 (f) 7655
   (g) 377559 (h) 388659 (i) 477289
   (j) 181087 (k) 87655 (l) 225866
   (m) 389369 (n) 2888670 (o) 48887878
   (p) 897869 (q) 6205778 (r) 8781799
8. (a) 9 (b) 5 (c) 13 (d) 99 (e) 134
   (f) 101 (g) 328 (h) 449 (i) 638 (j) 209
   (k) 1267 (l) 2101
9. (a) 100 (b) 11446 (c) 323375
   (d) 5214090 (e) 65694545 (f) 27824402
10. (a) 240 (b) 390 (c) 600 (d) 800
    (e) 720 (f) 880 (g) 7070 (h) 6660
    (i) 18090 (j) 27090 (k) 2400 (l) 4500
    (m) 6400 (n) 11900 (o) 7600 (p) 17800
11. (a) 40800 (b) 55500 (c) 60600 (d) 81600
    (e) 99900 (f) 180900 (g) 24800 (h) 11000
    (i) 24000 (j) 39000 (k) 56000 (l) 75000
    (m) 96000 (n) 119000 (o) 96000 (p) 99000
    (q) 132000 (r) 12340
12. (a) 286 (b) 408 (c) 429 (d) 616
    (e) 693 (f) 1089 (g) 3366 (h) 1599
    (i) 2769 (j) 4944 (k) 5566 (l) 15504
    (m) 392 (n) 338 (o) 1295 (p) 2193
13. (a) 33123 (b) 45864 (c) 73554 (d) 77815
    (e) 98901 (f) 2961 (g) 7128 (h) 6237
    (i) 100152 (j) 95472 (k) 107236 (l) 27068
    (m) 32239 (n) 66357 (o) 15165 (p) 26169
    (q) 39169 (r) 48048 (s) 151659 (t) 1102572
    (u) 506937 (v) 9375 (w) 190232 (x) 116702
14. (a) 111564 (b) 227124 (c) 2185760
    (d) 1681728 (e) 5593221 (f) 49189424
    (g) 18537856 (h) 5332114 (i) 728189901
    (j) 7390000 (k) 6580000 (l) 948000
    (m) 144 (n) 180 (o) 4800
15. (a) 46930 (b) 234358 (c) 191565
    (d) 440841 (e) 703962 (f) 573478
16. (a) 14 (b) 4 (c) 47 (d) 38 (e) 6 (f) 22
    (g) 5 (h) 0 (i) 4 (j) 214
17. (a) Quotient = 8, Remainder = 0
    (b) Quotient = 7, Remainder = 0
    (c) Quotient = 7, Remainder = 0
    (d) Quotient = 8, Remainder = 6
    (e) Quotient = 9, Remainder = 0
    (f) Quotient = 82, Remainder = 0
    (g) Quotient = 65, Remainder = 0
    (h) Quotient = 53, Remainder = 0
    (i) Quotient = 21, Remainder = 0
    (j) Quotient = 22, Remainder = 0
    (k) Quotient = 14, Remainder = 0
18. (a) Quotient = 7081, Remainder = 0
    (b) Quotient = 412, Remainder = 0
    (c) Quotient = 503, Remainder = 0
    (d) Quotient = 212, Remainder = 0
    (e) Quotient = 1002, Remainder = 0
    (f) Quotient = 750, Remainder = 0
19. (a) Quotient = 31, Remainder = 1
    (b) Quotient = 21, Remainder = 2
    (c) Quotient = 11, Remainder = 3
    (d) Quotient = 11, Remainder = 3
    (e) Quotient = 11, Remainder = 3
    (f) Quotient = 11, Remainder = 1
20. (a) Quotient = 203, Remainder = 1
    (b) Quotient = 31, Remainder = 1
    (c) Quotient = 42, Remainder = 1
    (d) Quotient = 32, Remainder = 12
    (e) Quotient = 37, Remainder = 7
    (f) Quotient = 523, Remainder = 3
    (g) Quotient = 624, Remainder = 10
    (h) Quotient = 7, Remainder = 8
    (i) Quotient = 45, Remainder = 6
    (j) Quotient = 203, Remainder = 4
    (k) Quotient = 9807, Remainder = 0
    (l) Quotient = 2, Remainder = 34
    (m) Quotient = 98, Remainder = 7
    (n) Quotient = 501, Remainder = 23
    (o) Quotient = 4365, Remainder = 10
21. (a) Quotient = 3, Remainder = 629
    (b) Quotient = 78, Remainder = 96
    (c) Quotient = 123, Remainder = 456
    (d) Quotient = 6003, Remainder = 137
22. (a) Quotient = 7, Remainder = 0
    (b) Quotient = 9, Remainder = 0
    (c) Quotient = 8, Remainder = 0
    (d) Quotient = 4, Remainder = 0
    (e) Quotient = 22, Remainder = 0
    (f) Quotient = 109, Remainder = 0

(g) Quotient = 168, Remainder = 0
(h) Quotient = 8, Remainder = 10
(i) Quotient = 9, Remainder = 10
(j) Quotient = 5, Remainder = 30
(k) Quotient = 8, Remainder = 40
(l) Quotient = 7, Remainder = 30
(m) Quotient = 7, Remainder = 10
(n) Quotient = 22, Remainder = 20
(o) Quotient = 20, Remainder = 40
(p) Quotient = 9, Remainder = 0
(q) Quotient = 7, Remainder = 0
(r) Quotient = 4, Remainder = 0
(s) Quotient = 2, Remainder = 0
(t) Quotient = 2, Remainder = 0
(u) Quotient = 2, Remainder = 0

23. (a) Quotient = 12, Remainder = 0
(b) Quotient = 13, Remainder = 0
(c) Quotient = 11, Remainder = 0
(d) Quotient = 11, Remainder = 0
(e) Quotient = 12, Remainder = 0
(f) Quotient = 11, Remainder = 0
(g) Quotient = 96, Remainder = 0
(h) Quotient = 41, Remainder = 0
(i) Quotient = 27, Remainder = 0
(j) Quotient = 80, Remainder = 0
(k) Quotient = 720, Remainder = 0

24. (a) Quotient = 4, Remainder = 1
(b) Quotient = 3, Remainder = 4
(c) Quotient = 2, Remainder = 1
(d) Quotient = 12, Remainder = 1
(e) Quotient = 13, Remainder = 12
(f) Quotient = 11, Remainder = 0
(g) Quotient = 604, Remainder = 4
(h) Quotient = 103, Remainder = 11
(i) Quotient = 203, Remainder = 8

25. (a) Quotient = 1174, Remainder = 11
(b) Quotient = 22137, Remainder = 25
(c) Quotient = 11053, Remainder = 6
(d) Quotient = 14920, Remainder = 16
(e) Quotient = 1435088, Remainder = 29
(f) Quotient = 152407, Remainder = 39

26. (a) Quotient = 709, Remainder = 5
(b) Quotient = 103, Remainder = 109
(c) Quotient = 1266, Remainder = 431
(d) Quotient = 2509, Remainder = 198
(e) Quotient = 7162, Remainder = 353
(f) Quotient = 3765, Remainder = 734

27. (a) Quotient = 262, Remainder = 1155
(b) Quotient = 2024, Remainder = 1635
(c) Quotient = 5724, Remainder = 1677
(d) Quotient = 76142, Remainder = 325
(e) Quotient = 157, Remainder = 429
(f) Quotient = 819, Remainder = 780

28. (a) Quotient = 4256, Remainder = 328
(b) Quotient = 360, Remainder = 4285
(c) Quotient = 270, Remainder = 563

29. (a) 1 (b) 64 (c) 32 (d) 32 (e) 3542
(f) 12000 (g) 2030 (h) 14 (i) 7 (j) 27
(k) -55/7 (l) 1649 (m) 1649 (n) 345 (o) 0

30. (a) 16 (b) 7 (c) 675 (d) 4 (e) 34 (f) 106

31. (a) $12 \times 6 \div 3 = 24$ and $12 \times (6 \div 3) = 24$ is equal
(b) $(11 \times 8) - 6 = 82$ and $11 \times (8 - 6) = 22$ are not equal

32. (a) 50 (b) 170 (c) 38 (d) 12 (e) 28