EXERCISE 1A

1. Express the following numbers in words:
(a) 3013 (b) 4444 (c) 32108 (d) 60345
(e) 87650 (f) 100325 (g) 654019 (h) 3336669

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. Place commas correctly and write the numerals:
(a) Seventy three lakh seventy five thousand three hundred seven.
(b) Nine crore five lakh forty one.
(c) Seven crore fifty two lakh twenty one thousand three hundred two.
(d) Fifty eight million four hundred twenty three thousand two hundred two.
(e) Twenty three lakh thirty thousand ten.

4. Insert commas suitably and write the names according to Indian System of Numeration :
(a) 87595762 (b) 8546283 (c) 99900046

5. Insert commas suitably and write the names according to International System of Numeration :
(a) 78921092 (b) 7452283 (c) 99985102

6. Fill in the blanks.
(a) 1 million = ... lakh (b) 1 crore = ... million
(c) 1 lakh = ... thousand (d) 1 billion = ... lakh

7. 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

8. Write the corresponding numeral for each of the following:
(a) 6 × 10000 + 2 × 1000 + 5 × 1 00 + 8 × 10 + 4 × 1
(b) 5 × 100000 + 8 × 10000 + 1 × 1000 + 6 × 100 + 2 × 10 + 3 × 1
(c) 2 × 10000000 + 5 × 100000 + 7 × 1000 + 9 × 100 + 5 × 1
(d) 3 × 1 000000 + 4 × 1 00000 + 6 × 1000 + 5 × 100 + 7 × 1

9. Fill in the blanks with '<' or '>':
(a) 1000 ☐ 999 (b) 4567 ☐ 1980
(c) 3298 ☐ 3412 (d) 93850 ☐ 93800
(e) 12345 ☐ 11999 (f) 99999 ☐ 111111
(g) 456789 ☐ 456123 (h) 198765 ☐ 198599
(i) 900123 ☐ 897654 (j) 100009 ☐ 100010
(k) 1003467 ☐ 987965 (l) 3572014 ☐ 10235401

10. Write the number coming just before the given number:
(a) 42678 (b) 998866 (c) 124680 (d) 9900000

11. Write the number coming just after the given number:
(a) 87654 (b) 668899 (c) 986421 (d) 9547999

12. Arrange the following numbers in ascending order:
(a) 9876, 8678, 999, 4567, 9, 1843
(b) 6666, 55555, 777, 88, 9, 90000
(c) 100000, 8, 94321, 98888, 546001, 11
(d) 450023, 9, 87615, 9867, 20, 448, 399
(e) 66633, 33, 8001, 200005, 7, 876
(f) 9873426, 24615019, 990357, 9874012, 24620010
(g) 56943201, 5694437, 56944000. 5695440, 56943300
(h) 700087, 8014257, 8015032, 10012458, 8014306
(i) 1020304, 893245, 980134, 1021403, 893425, 1020216

13. Arrange the following numbers in descending order:
(a) 1234, 2400, 4256, 976, 81, 6
(b) 3214, 65, 888, 9870, 10910, 3
(c) 67890, 80076, 88809, 765, 8, 3481
(d) 3333, 44444, 999, 77, 9, 80000
(e) 200000, 12349, 88889, 100645, 7, 89
(f) 63521047, 7354206, 63514759, 7355014, 102345680
(g) 5032786, 23794206, 5032790, 23756819, 987876
(h) 190909, 1808088, 16060666, 16007777, 181888, 1808090
(i) 199988, 1704382,200175, 1702497,201200, 1712040

14. Write all 3-digit numbers using 2, 3, 4. taking each digit only once.

15. Round each of the following numbers to the nearest ten:
(a) 35 (b) 86 (c) 173 (d) 3869 (e) 16378

16. Round each of the following numbers to the nearest hundred:
(a) 814 (b) 1254 (c) 43126 (d) 98165

17. Round each of the following numbers to the nearest thousand:
(a) 793 (b) 4826 (c) 16719 (d) 28394

18. Round each of the following numbers to the nearest ten thousand:
(a) 17514 (b) 26340 (c) 34890 (d) 272685

19. 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

20. 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

21. Estimate each difference to the nearest ten:
(a) 53 - 18 (b) 97 - 38 (c) 409 - 148

22. Estimate each difference to the nearest hundred:
(a) 678 - 215 (b) 957 - 578
(c) 7258 - 2429 (d) 5612 - 3095

23. Estimate each difference to the nearest thousand:
(a) 35863 - 27677 (b) 47005 - 39488

24. 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

25. 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

26. 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

27. 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

28. Find the estimated quotient for each of the following:
(a) 87 ÷ 28 (b) 83 ÷ 17 (c) 75 ÷ 23
(d) 193 ÷ 24 (e) 725 ÷ 23 (f) 275 ÷ 25
(g) 633 ÷ 33 (h) 729 ÷ 29 (i) 858 ÷ 39

29. Express each of the following as a Roman numeral:
(a) 8 (b) 14 (c) 29 (d) 36 (e) 43 (f) 54
(g) 61 (h) 73 (i) 81 (j) 95 (k) 99 (l) 105
(m) 114 (n) 164 (o) 195 (p) 226 (q) 341 (r) 475
(s) 596 (t) 611 (u) 520 (v) 621 (w) 759 (x) 819

30. Write each of the following as a Hindu-Arabic numeral:
(a) XXVII (b) XXXIV (c) XLV (d) LIV
(e) LXXIV (f) XCI (g) XCVI (h) CXI
(i) CLIV (j) CCXXIV (k) CCCLXV (l) CDXIV
(m) CDLXIV (n) DVI (o) DCCLXVI

31. Show that each of the following is meaningless. Give reason in each case.
(a) VC (b) IL (c) VVII (d) IXX

EXERCISE 1B

Arrange in columns and add:

1. (a) 12129 + 24456 + 96543
(b) 34436 + 5 061 + 343 + 2
(c) 710109 + 94087 + 4354 + 76789 + 235

2. (a) 51321 and 43267
(b) 41212, 32123 and 5454
(c) 11211, 2122, 33133 and 523
(d) 644531 and 243245
(e) 1122, 34344, 31211 and 20001
(f) 50, 505, 5001 and 50102

3. (a) 654365 and 567567
(b) 8989898 and 9999999
(c) 444333, 556606 and 777888

Add:

4. (a) 23456 + 71241 (b) 34120 + 45230
(c) 62507 + 4092 (d) 40065 + 38713
(e) 87654 + 321 (f) 80704 + 3203

5. (a) 341125 + 124563 (b) 415306 + 372002
(c) 53724 + 612053

6. (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

7. (a) 16975 + 64806 (b) 62402 + 24659
(c) 52876 + 58693 (d) 74251 + 3969
(e) 4875 + 92665 (f) 936 + 52186

8. (a) 265849 + 373246 (b) 527496 + 236540
(c) 43857 + 649763 (d) 300242 + 729734

9. (a) 23678 + 14972 + 55031
(b) 12345 + 54321 + 345678
(c) 468024 + 135791 + 56789
(d) 4567 + 34567 + 234567
(e) 56784 + 7654 + 456
(f) 24680 + 678901 + 213140

10. (a) 13579 + 24680 + 50321 + 11892
(b) 567897 + 43211 + 189458 + 219
(c) 66556 + 4446 + 336 + 26

11. (a) 456456 + 367890
(b) 1234567 + 8907865
(c) 77889908 + 7543217 + 85685685
(d) 4488997 + 3322115 + 5544332

12. (a) 11889966 + 5566787 + 95087654 + 32100645
(b) 7788665 + 2223334 + 5567890 + 6565656

Arrange in columns and subtract:

13. (a) 45554 - 32103 (b) 39876 - 18540
(c) 799967 - 543217 (d) 123456 - 112233

14. (a) 74321 - 35648 (b) 97654 - 38899
(c) 654321 - 66778 (d) 958822 - 9933

15. (a) Subtract 76765 from 94320.
(b) Subtract 464646 from 853420.

Subtract

16. (a) 8789 - 4506 (b) 99887 - 55443
(c) 66543 - 42310 (d) 4436 - 12345
(e) 61524 - 31312 (f) 95468 - 3125

17. (a) 678953 - 215432 (b) 554433 - 221103
(c) 789987 - 112283 (d) 654321 - 321211
(e) 876655 - 443322 (f) 653105 - 41004

18. (a) 97654 - 38799 (b) 55443 - 16744
(c) 67895 - 28996 (d) 78978 - 29989
(e) 34567 - 2089 (f) 10000 - 2345

19. (a) 545454 - 167895 (b) 666555 - 277896
(c) 607054 - 129765 (d) 330065 - 148978
(e) 100000 - 12345 (f) 226655 - 789

20. (a) 780605 - 391236 (b) 4321657 - 1432987
(c) 3322117 - 2424248 (d) 7895432 - 1689654

(e) 10060708 - 1278909 (f) 65656565 - 16768687

21. Fill in the blanks:
(a) 1235 + ☐ = 2000 (b) 51047 + ☐ = 100000
(c) ☐ + 792 = 10000 (d) ☐ + 9999 = 40000
(e) 22222 - ☐ = 5000 (f) ☐ - 1234 = 12345

Simplify:

22. (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) 1089 - 197 - 47 + 1256
(l) 298 + 596 - 293 - 392
(m) 503 - 1437 - 246 + 1375 - 95
(n) 10000 - 999 + 8888 - 6665 + 777 - 555

23. (a) 656666 + 432141 - 765432
(b) 7899876 - 5898999 + 3213213
(c) 52345678 - 43216789 + 56565656
(d) 96596596 - 56432107 - 12340087

Find:

24. (a) 13 × 30 (b) 15 × 40 (c) 16 × 50 (d) 111 × 60
(e) 101 × 70 (f) 11 × 80 (g) 201 × 90 (h) 301 × 90

25. (a) 12 × 200 (b) 15 × 300 (c) 16 × 400
(d) 111 × 500 (e) 101 × 600 (f) 17 × 700
(g) 102 × 800 (h) 111 × 900 (i) 201 × 900

26. (a) 11 × 1000 (b) 12 × 2000 (c) 13 × 3000
(d) 14 × 4000 (e) 15 × 5000 (f) 16 × 6000
(g) 17 × 7000 (h) 12 × 8000 (i) 11 × 9000

27. (a) 76 × 100 (b) 132 × 1000 (c) 1234 × 10
(d) 36 × 20 (e) 124 × 200 (f) 102 × 400

28. (a) 22 × 13 (b) 34 × 12 (c) 33 × 13
(d) 56 × 11 (e) 63 × 11 (f) 99 × 11

29. (a) 102 × 33 (b) 123 × 13 (c) 213 × 13
(d) 412 × 12 (e) 506 × 11 (f) 1011 × 15
(g) 2013 × 13 (h) 3013 × 13 (i) 4004 × 12

30. (a) 14 × 28 (b) 26 × 13 (c) 37 × 35
(d) 43 × 51 (e) 54 × 63 (f) 98 × 77

31. (a) 456 × 34 (b) 543 × 61 (c) 637 × 72
(d) 897 × 82 (e) 985 × 79 (f) 999 × 99

32. (a) 141 × 21 (b) 324 × 22 (c) 567 × 11
(d) 321 × 312 (e) 432 × 221 (f) 332 × 323

33. (a) 134 × 202 (b) 313 × 103 (c) 657 × 101

34. (a) 1233 × 123 (b) 3321 × 332 (c) 4567 × 111

35. (a) 375 × 25 (b) 2408 × 79 (c) 1357 × 86

36. (a) 429 × 103 (b) 738 × 108 (c) 235 × 302

37. (a) 294 × 132 (b) 312 × 216 (c) 412 × 233

38. (a) 12 × 3 × 4 (b) 3 × 4 × 15 (c) 20 × 5 × 6 × 8

39. (a) 4132 × 27 (b) 6309 × 36 (c) 23008 × 95

40. (a) 3688 × 456 (b) 7089 × 789 (c) 60878 × 808

41. (a) 2308 × 8032 (b) 1234 × 4321
(c) 81009 × 8989 (d) 92002 × 23043

42. (a) 1478 × 5000 (b) 94 × 70000 (c) 79 × 12000

43. Multply:
(a) 1235 by 38 (b) 3167 by 74 (c) 4257 by 45
(d) 6389 by 69 (e) 2331 by 302 (f) 5678 by 101

44. Simplify:
(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:

45. (a) 88 ÷ 11 (b) 91 ÷ 13 (c) 126 ÷ 15 (d) 144 ÷ 16

46. (a) 902 ÷ 11 (b) 975 ÷ 15 (c) 848 ÷ 16
(d) 588 ÷ 28 (e) 814 ÷ 37 (f) 686 ÷ 49

47. (a) 92053 ÷ 13 (b) 11948 ÷ 29 (c) 23138 ÷ 46
(d) 12084 ÷ 57 (e) 81162 ÷ 81 (f) 72000 ÷ 96

48. (a) 807 ÷ 26 (b) 737 ÷ 35 (c) 487 ÷ 44
(d) 608 ÷ 55 (e) 828 ÷ 75 (f) 969 ÷ 88

49. (a) 9559 ÷ 18 (b) 7309 ÷ 36 (c) 2078 ÷ 67
(d) 3319 ÷ 79 (e) 2700 ÷ 84 (f) 3670 ÷ 99

50. (a) 96009 ÷ 19 (b) 19877 ÷ 38 (c) 28090 ÷ 45

Divide and verify the answer:

51. (a) 8652 ÷ 12 (b) 7525 ÷ 35 (c) 9964 ÷ 47
(d) 1533 ÷ 73 (e) 7826 ÷ 86 (f) 2256 ÷ 94

52. (a) 85 ÷ 14 (b) 98 ÷ 16 (c) 95 ÷ 20
(d) 98 ÷ 24 (e) 89 ÷ 25 (f) 98 ÷ 30

Find the quotient and the remainder.

53. (a) 456 ÷ 10 (b) 2034 ÷ 10 (c) 98070 ÷ 10

54. (a) 9807 ÷ 100 (b) 50123 ÷ 100
(c) 436510 ÷ 100 (d) 5204400 ÷ 1000

55. (a) 3629 ÷ 1000 (b) 78096 ÷ 1000
(c) 123456 ÷ 1000 (d) 6003137 ÷ 1000

56. (a) 140 ÷ 20 (b) 270 ÷ 30 (c) 320 ÷ 40
(d) 200 ÷ 50 (e) 420 ÷ 60 (f) 560 ÷ 70
(g) 1760 ÷ 80 (h) 9810 ÷ 90 (i) 8400 ÷ 50

57. (a) 170 ÷ 20 (b) 280 ÷ 30 (c) 230 ÷ 40
(d) 440 ÷ 50 (e) 450 ÷ 60 (f) 500 ÷ 70
(g) 1780 ÷ 80 (h) 1840 ÷ 90

58. (a) 999 ÷ 111 (b) 861 ÷ 123 (c) 996 ÷ 249
(d) 616 ÷ 308 (e) 846 ÷ 423 (f) 898 ÷ 449

59. (a) 1668 ÷ 139 (b) 5564 ÷ 428 (c) 6666 ÷ 606
(d) 7777 ÷ 707 (e) 9708 ÷ 809 (f) 9977 ÷ 907

60. (a) 17952 ÷ 187 (b) 21361 ÷ 521 (c) 20979 ÷ 777

61. (a) 15920 ÷ 199 (b) 264240 ÷ 367
(c) 176820 ÷ 421 (d) 16777216 ÷ 4096

62. (a) 669 ÷ 167 (b) 820 ÷ 272 (c) 819 ÷ 409

63. (a) 7345 ÷ 612 (b) 9333 ÷ 717 (c) 8855 ÷ 805

64. (a) 74296 ÷ 123 (b) 81278 ÷ 789 (c) 85877 ÷ 423

65. (a) 78669 ÷ 67 (b) 841231 ÷ 38
(c) 618974 ÷ 56 (d) 1223456 ÷ 82
(e) 63143901 ÷ 44 (f) 12345006 ÷ 81

66. (a) 87212 ÷ 123 (b) 81376 ÷ 789
(c) 806873 ÷ 637 (d) 898420 ÷ 358
(e) 3158795 ÷ 441 (f) 3159569 ÷ 839

67. (a) 348043 ÷ 1324 (b) 5820635 ÷ 2875
(c) 27654321 ÷ 4831 (d) 610050029 ÷ 8012
(e) 333112 ÷ 2119 (f) 6880380 ÷ 8400

68. (a) 4256328 ÷ 1000 (b) 3604285 ÷ 10000
(c) 810563 ÷ 3000

69. Simplify:
(a) 16 ÷ 2 of 8 (b) 16 ÷ 2 × 8
(c) 16 of 4 ÷ 2 (d) 16 × 8 ÷ 4
(e) 20 ÷ 2 - 10 × 2 + 5 of 4 ÷ 5 + 20

(f) 25 ÷ 5 of 5 × 2 of 3 + 7 - 6
(g) 125 of 4 ÷ 10 of 5 - 9 of 7 + 160 ÷ 2
(h) 12 ÷ 4 of 3 ÷ 7 - 2 × 4
(i) 4900 ÷ 350 × 145
(j) 220 + 24 × 60 - 1089 ÷ 99
(k) 322 × 3773 ÷ 343 (l) 4875 ÷ 195 × 480
(m) 4900 ÷ 350 × 145
(n) 220 + 24 × of 60 - 1089 ÷ 99
(o) 3960 ÷ 264 + 5742 ÷ 522 × 30
(p) 3125 ÷ 125 - 2055 ÷ 411 - 20

70. Simplify the following:
(a) (16 + 12) - (2 × 6) (b) 84 ÷ (72 ÷ 6)
(c) (83 - 38) × 1 5 (d) (20 × 8) ÷ (10 of 4)
(e) 24 + 15 ÷ 3 × (4 - 2)
(f) (15 × 3) ÷ 5 × 8 - 2 + 6 × (8 - 2)

71. 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)

72. 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 1C

1. Write down all the factors of
(a) 23 (b) 18 (c) 24 (d) 27 (e) 36 (f) 60 (g) 75

2. Write the first five multiples of each of the following numbers:
(a) 5 (b) 8 (c) 9 (d) 17 (e) 23 (f) 65 (g) 70

3. Which of the following numbers are even and which are odd?
(a) 44 (b) 24 (c) 18 (d) 32 (e) 37 (f) 50
(g) 58 (h) 69 (i) 144 (j) 321 (k) 253 (l) 952

4. Find which of the following numbers are primes:
(a) 23 (b) 51 (c) 89 (d) 37 (e) 91 (f) 103
(g) 137 (h) 161 (i) 179 (j) 217 (k) 277 (l) 331

5. Which ofthe following numbers are divisible by 2?
(a) 11, 24, 30, 95, 99 (b) 100, 109, 427, 524
(c) 1346, 4235, 5002, 10100

6. Which ofthe following numbers are divisible by 10?
(a) 10, 15, 30, 48, 70
(b) 145, 1200, 470, 50, 505

7. Which of the following numbers are divisible by 5?
(a) 5, 6, 8, 9, 7 (b) 10, 22, 35, 60, 95

8. Which ofthe following numbers are dwisible by 3?
(a) 12, 17, 45, 96, 62 (b) 111, 320, 428, 732
(c) 1234, 3150, 5022, 8102

9. In each ofthe following, find the smallest number that should be added to the number to get a number disible by 5.
(a) 1456 (b) 43217 (c) 639210 (d) 900003

10. 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) 3060 (c) 45679 (d) 900093

11. Test the divisibility of the following numbers by 2,3,4,5,6,7,8,9,10,11,12,15:

2650	69435	59628	789403	357986
733	367314	10038	20701	79124
524781	872645	618	2314	63712
35056	4965	23590	946126	810524
35208	2070	124684	723405	46523
71232	438750	934706	117	826
251780	872536	2345	6021	14126
25368	9364	2138	36792	901674
2358	3333	136976	1790184	98712
5790	647514	326999	63215	55555
4334	257106	83721	66311	137269
901351	129	4896	79968	8790322
123452	390	7825	90875	406839

12. Which of the following numbers are divisible by 2 but not by 4?
(a) 28 (b) 316 (c) 2456 (d) 9026 (e) 726352

13. 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 (g) *6724 (h) 4765*2

14. 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 (g) 987*2 (h) 64*514

15. 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 (g) 92*389 (h) 8*9484

16. Test the divisibility of:
(a) 10000001 by 11 (b) 19083625 by 11
(c) 2134563 by 9 (d) 10001001 by 3

17. Select the coprime numbers from the following pairs of numbers.
(a) 18 and 17 (b) 36 and 25 (c) 35 and 21

18. Find the common factors of :
(a) 20 and 28 (b) 15 and 25 (c) 35 and 50
(d) 56 and 120 (e) 4, 8 and 12 (f) 5, 15 and 25

19. Find first three common multiples of :
(a) 6 and 8 (b) 12 and 18

20. Which of the following numbers are co-prime?
(a) 18 and 35 (b) 15 and 37 (c) 30 and 415
(d) 17 and 68 (e) 216 and 215 (f) 81 and 16

21. 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

22. Find, by inspection, the HCF ofthe following pairs of numbers:
(a) 2 and 4 (b) 4 and 6 (c) 3 and 12
(d) 6 and 9 (e) 8 and 12 (f) 10 and 15
(g) 16 and 24 (h) 18 and 27 (i) 30 and 40
(j) 22 and 33 (k) 11 and 15 (l) 13 and 8

23. Find the HCF by finding factors:

(a) 4 and 8 (b) 4 and 10 (c) 3 and 15
(d) 9 and 12 (e) 10 and 25 (f) 35 and 49
(g) 2, 4 and 8 (h) 4, 6 and 8 (i) 3, 6 and 9
(j) 6, 9 and 1 5 (k) 8, 12 and 16 (l) 18, 24 and 32

Find the HCF by prime factorization:

37. (a) 45 and 30 (b) 45 and 75 (c) 30 and 105
(d) 54 and 81 (e) 64 and 80 (f) 58 and 174
(g) 72 and 126 (h) 165 and 275 (i) 480 and 720

38. (a) 12, 36 and 48 (b) 25, 40 and 60
(c) 40, 48 and 72 (d) 56, 42 and 140
(e) 44, 121 and 132 (f) 128, 136 and 512

39. (a) 140 and 196 (b) 352 and 192
(c) 216 and 630 (d) 540, 315 and 360
(e) 216, 324 and 1350

40. (a) 170, 238 (b) 504, 980
(c) 72, 108, 180 (d) 84, 120, 138
(e) 106, 159, 371 (f) 272, 425
(g) 144, 252, 630 (h) 1197, 5320, 4389

Find the HCF, using the division method *(Using Euclid's division algorithm)*:

41. (a) 390 and 663 (b) 856 and 936
(c) 837 and 1134 (d) 504 and 5292
(e) 775 and 1800 (f) 1435 and 3535
(g) 7625 and 8175 (h) 1020 and 11594
(i) 5610 and 10465 (j) 12350 and 6845
(k) 10568 and 9247 (l) 3536 and 33150

42. (a) 256, 442 and 940 (b) 192, 576 and 1760
(c) 639, 873 and 747 (d) 612, 816 and 448
(e) 176, 1100 and 4444 (f) 808, 568 and 1112
(g) 432, 1134 and 1347 (h) 345, 726 and 531

43. (a) 1233, 726, 531 and 345
(b) 1326, 3094, 4420 and 5577

44. (a) 58, 70 (b) 399, 437
(c) 960, 1575 (d) 1045, 1520
(e) 1965, 2096 (f) 2241, 2324
(g) 658, 940, 1128 (h) 754, 1508, 1972
(i) 391, 425, 527 (j) 1794, 2346, 4761

45. Show that the following pairs are co-primes:
(a) 59, 97 (b) 161, 192 (c) 343, 432
(d) 512, 945 (e) 385, 621 (f) 847, 1014

46. Find, by inspection, the LCM of each pair of numbers:
(a) 2 and 4 (b) 3 and 6 (c) 4 and 8
(d) 6 and 12 (e) 5 and 10 (f) 9 and 3
(g) 20 and 10 (h) 6 and 10 (i) 6 and 16
(j) 12 and 16 (k) 10 and 15 (l) 12 and 18

47. Find, orally, the LCM of each group of numbers:
(a) 2, 3 and 4 (b) 4, 6 and 12 (c) 2, 6 and 8
(d) 4, 8 and 1 2 (e) 4, 12 and 18 (f) 2, 9 and 18
(g) 9, 12 and 18 (h) 8, 9 and 12 (i) 5, 10 and 15

Find the LCM, using prime factorization:

48. (a) 4 and 6 (b) 6 and 9 (c) 8 and 12
(d) 4 and 22 (e) 4 and 26 (f) 6 and 21
(g) 6 and 27 (h) 8 and 28 (i) 10 and 25
(j) 15 and 25 (k) 25 and 80 (l) 75 and 120

49. (a) 10, 12 and 36 (b) 21 ,63 and 105
(c) 45, 84 and 90 (d) 54, 60 and 90
(e) 13, 39 and 65 (f) 21, 27 and 189
(g) 45, 125 and 225 (h) 240, 320 and 360

50. (a) 25, 30 and 40 (b) 42, 36 and 21
(c) 26, 14 and 91 (d) 36, 60, 84 and 90

51. (a) 36, 60, 72 (b) 36, 40, 126
(c) 16, 28, 40, 77 (d) 28, 36, 45, 60
(e) 144, 180, 384 (f) 48, 64, 72, 96, 108

Find the LCM of the numbers by division:

52. (a) 21, 63 and 105 (b) 64, 96 and 112
(c) 12, 18 and 90 (d) 45, 35 and 21

53. (a) 15, 45, 125 and 225 (b) 44, 126, 198 and 280
(c) 4, 6, 8, 12, 18 and 90 (d) 12, 36, 16, 24 and 32
(e) 16, 90, 91, 280 and 455

54. Find the LCM of the numbers by finding their HCF:
(a) 110 and 88 (b) 420 and 360 (c) 204 and 255

55. Reduce each of the following fractions to the lowest terms:
(a) $\frac{161}{207}$ (b) $\frac{517}{799}$ (c) $\frac{296}{481}$ (d) $\frac{1095}{1168}$ (e) $\frac{368}{496}$

56. Find the HCF and LCM of
(a) 117, 221 (b) 234, 572 (c) 693, 1078
(d) 145, 232 (e) 861, 1353 (f) 2923, 3239
(g) 17, 23, 29 (h) 24, 36, 40 (i) 30, 72, 432

57. For each pair of numbers, verify that their product = (HCF × LCM).
(a) 87, 145 (b) 186, 403 (c) 490, 1155

58. Find the greatest number that will divide 24 and 36 without leaving a remainder.

59. Find the greatest number that will divide 22, 33 and 44 without leaving a remainder.

60. Find the greatest number that will divide 33 and 45 leaving a remainder 9 in each case.

61. What is the largest number that will divide 61, 33 and 75 leaving Sas remainder In each case?

62. Find the greatest number that will divide 39, 52 and 65 leaving remainders 3, 4 and 5 respectively.

63. Find the least number which when divided by 12 and 18, leaves no remainder.

64. Find the least number which is exactly divisible by each ofthe numbers 6, 15 and 18.

65. Find the least number which when divided by 15 and 25, leaves 1 as remainder in each case.

66. Find the least number which when divided by 18 and 12, leaves 5 as remainder in each case.

67. The product of two numbers is 48 and their HCF is 2. Find their LCM.

68. The product of two numbers is 875 and their HCF is 5. Find their LCM.

69. The product of two numbers is 108 and their LCM is 36. Find their HCF.

70. The product of two numbers is 216 and their LCM is 36. Find their HCF.

71. The HCF of two numbers is 3 and their LCM is 36. If one of the numbers is 12, find the other number.

72. The HCF of two numbers is 8 and their LCM is 96. If one of the numbers is 24, find the other number.