

**Section 1.5**  
**Exercises**

**Add in base 5**

1.  $4_5 + 4_5$
2.  $3_5 + 3_5$
3.  $23_5 + 33_5$
4.  $34_5 + 40_5$
5.  $124_5 + 214_5$
6.  $304_5 + 133_5$
7.  $441_5 + 323_5$
8.  $430_5 + 142_5$

**Add in base 8**

9.  $7_8 + 6_8$
10.  $6_8 + 5_8$
11.  $14_8 + 37_8$
12.  $53_8 + 27_8$
13.  $135_8 + 463_8$
14.  $572_8 + 123_8$
15.  $564_8 + 632_8$
16.  $724_8 + 637_8$

**Add in base 2**

17.  $110_2 + 101_2$
18.  $100_2 + 111_2$
19.  $1110_2 + 1010_2$
20.  $1001_2 + 1011_2$

**Add in base 16**

21.  $A25_{16} + 692_{16}$
22.  $7E9_{16} + 542_{16}$
23.  $AA8_{16} + 237_{16}$
24.  $BA3_{16} + 249_{16}$

**Subtract in base 6**

25.  $52_6 - 45_6$
26.  $44_6 - 35_6$
27.  $551_6 - 423_6$
28.  $453_6 - 125_6$
29.  $341_6 - 252_6$
30.  $315_6 - 145_6$
31.  $403_6 - 254_6$
32.  $502_6 - 343_6$

**Subtract in base 9**

33.  $71_9 - 28_9$
34.  $23_9 - 14_9$
35.  $305_9 - 152_9$
36.  $351_9 - 180_9$
37.  $605_9 - 258_9$
38.  $705_9 - 238_9$
39.  $247_9 - 168_9$
40.  $654_9 - 587_9$

**Construct the single digit multiplication table for each of the following bases.**

41. Base 4
42. Base 6
43. Base 5
44. Base 7

**Multiply the numbers in the given bases and express your answer in the same base.**

45.  $21_3 \times 2_3$
46.  $22_3 \times 2_3$
47.  $4_5 \times 3_5$
48.  $4_5 \times 4_5$
49.  $14_5 \times 2_5$
50.  $12_5 \times 4_5$

$$51. 10_8 \times 3_8$$

$$52. 12_8 \times 5_8$$

$$53. 17_8 \times 2_8$$

$$54. 16_8 \times 4_8$$

**Divide the given numbers in the given bases and express your answer in the same base.**

$$55. 20_8 \div 4_8$$

$$56. 33_8 \div 3_8$$

$$57. 14_8 \div 6_8$$

$$58. 24_8 \div 5_8$$

$$59. 14_5 \div 3_5$$

$$60. 22_5 \div 4_5$$

$$61. 33_5 \div 3_5$$

$$62. 40_5 \div 2_5$$

$$63. 22_3 \div 2_3$$

$$64. 21_3 \div 10_3$$