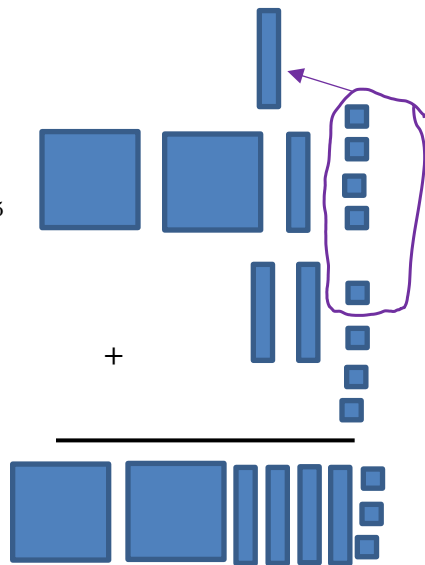


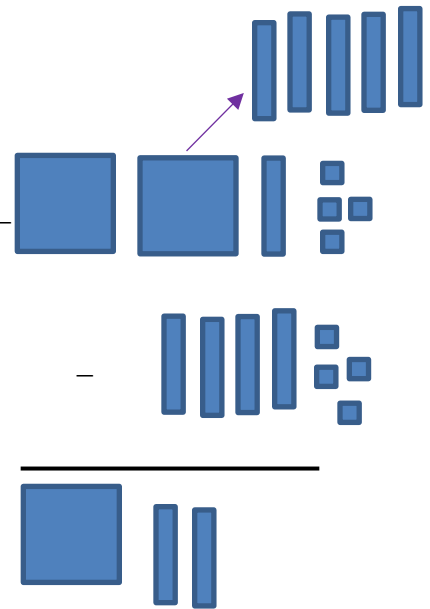
Answers to 1.6 Homework

1.

a. $214_5 + 24_5$
 $= 243_5$



c. $214_5 - 24_5$
 $= 120_5$



2.

a) 245_8
 $+ 173_8$

c) 1001_2
 $+ 1011_2$
 10100_2

3.

a) 273_8
 $- 155_8$
 116_8

c) 214_{12}
 $- 193_{12}$
 41_{12}

4. a.

2^3	2^2	2^1	2^0
8's	4's	2's	ones
1	0	0	1
1x8	+0	+0	+1

2^3	2^2	2^1	2^0
8's	4's	2's	ones
1	0	1	1
1x8	+0	+1x2	+1

$1001_2 = 9$

$1011_2 = 11$

c. $9+11=20$

d. $20 = 10100_2$, the same as when we add the numbers in base 2

2^4	2^3	2^2	2^1	2^0
16's	8's	4's	2's	ones
1	0	1	0	0
1x16	+0	+1x4	+0	+0

5. a. $12 \times 60 + 2 = 722$

b. $3 \times 60 + 21 = 201$

6. The number could be $3 \times 3600 + 1 = 10,801$, or $3 \times 3600 + 1 \times 60 = 10,860$, or $3 \times 60 + 1 = 181$

7.a. $204 = 3 \times 60 + 24 = \text{YYY} \ll \ll \text{YYYY}$

b. $185 = 3 \times 60 + 5 = \text{YYY} \text{YYYY}$

8. a. $85 = 221_6$

b. $134_{12} = 184$

c. $1445 = T05_{12}$