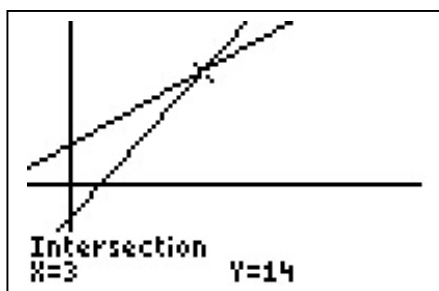
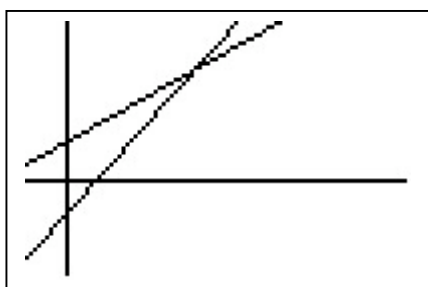


TASK 2.9.3: GRAPHING INTERSECTIONS**Solutions**

1. Work with your partner to build each equation with algebra tiles.
2. Use the tiles to solve the equations and record all steps on your paper.
3. On your graphing calculator, create the graph of these equations and sketch the graph on your paper. Record the viewing window on your paper.
4. Label the intersection of the graphs and explain the meaning of the intersection in the original equation.
5. Copy part of the table from the table function on your calculator. Show the solution to this equation in the table.

A. $6x - 4 = 3x + 5$

$Y_1 = 6x - 4; Y_2 = 3x + 5$



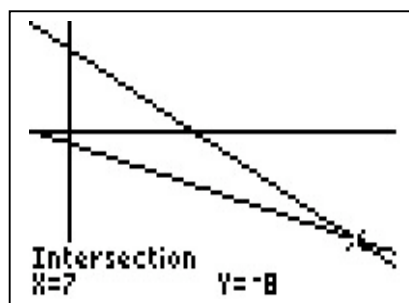
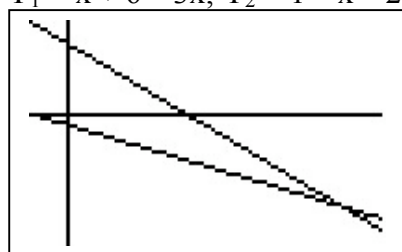
X	Y ₁	Y ₂
-1	-10	2
0	-4	5
1	2	8
2	8	11
3	14	14
4	20	17
5	26	20

X=3

WINDOW
 Xmin=-1
 Xmax=5
 Xscl=1
 Ymin=-5
 Ymax=20
 Yscl=0
 Xres=1

B. $x + 6 - 3x = 1 - x - 2$

$Y_1 = x + 6 - 3x; Y_2 = 1 - x - 2$



X	Y ₁	Y ₂
4	-2	-5
5	-4	-6
6	-6	-7
7	-8	-8
8	-10	-9
9	-12	-10
10	-14	-11

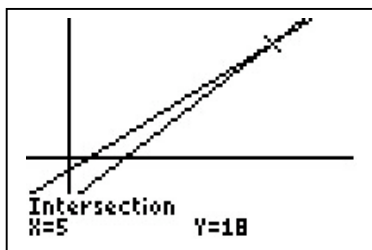
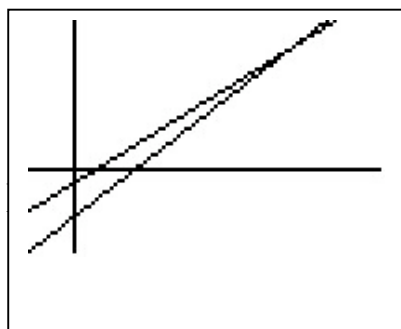
X=7

WINDOW
 Xmin=-1
 Xmax=10
 Xscl=1
 Ymin=-20
 Ymax=10
 Yscl=0
 Xres=1

Algebra I: Strand 2. Linear Functions; Topic 9. Concrete Models; Task 2.9.3

$$C. \quad 3x + 2 - (4 - x) = 6x + 2 - (9 + x)$$

$$Y_1 = 3x + 2 - (4 - x); Y_2 = 6x + 2 - (9 + x)$$



```

WINDOW
Xmin=■1
Xmax=7
Xscl=1
Ymin=-10
Ymax=25
Yscl=0
Xres=1
  
```

X	Y ₁	Y ₂
10	10	8
14	14	13
18	18	18
22	22	23
26	26	28
30	30	33
34	34	38
<hr/>		
X=5		

Teaching notes

The process of sequencing instruction from the concrete level to the pictorial level to the symbolic level allows mathematics to be accessible to a broader range of students.

Before starting these tasks, teachers need to make sure students are familiar with the algebra tiles and their ties to the symbolic representation of algebra concepts. Demonstrate and have students practice 0 pairs with units, x 's, and squares.

TASK 2.9.3: GRAPHING INTERSECTIONS

1. Work with your partner to build each equation with algebra tiles.
2. Use the tiles to solve the equations and record all steps on your paper.
3. On your graphing calculator, create the graph of these equations and sketch the graph on your paper. Record the viewing window on your paper.
4. Label the intersection of the graphs and explain the meaning of the intersection in the original equation.
5. Copy part of the table from the table function on your calculator. Show the solution to this equation in the table.

A. $6x - 4 = 3x + 5$

B. $x + 6 - 3x = 1 - x - 2$

C. $3x + 2 - (4 - x) = 6x + 2 - (9 + x)$