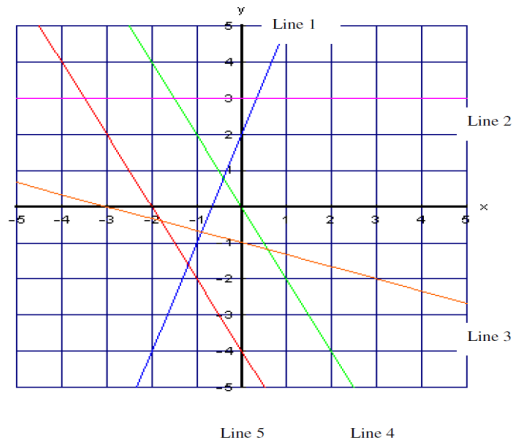
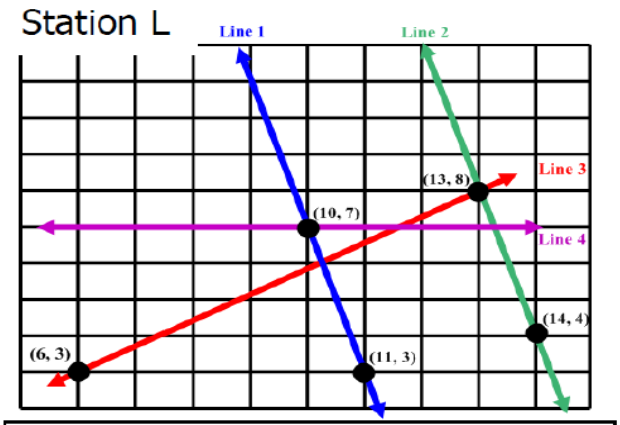
## Station L




| Line | Slope | Y-intercept | Equation in y= mx+b form |
|---|---|---|---|
| Line 1 | | | |
| Line 2 | | | |
| Line 3 | | | |
| Line 4 | | | |
| Line 5 | | | |

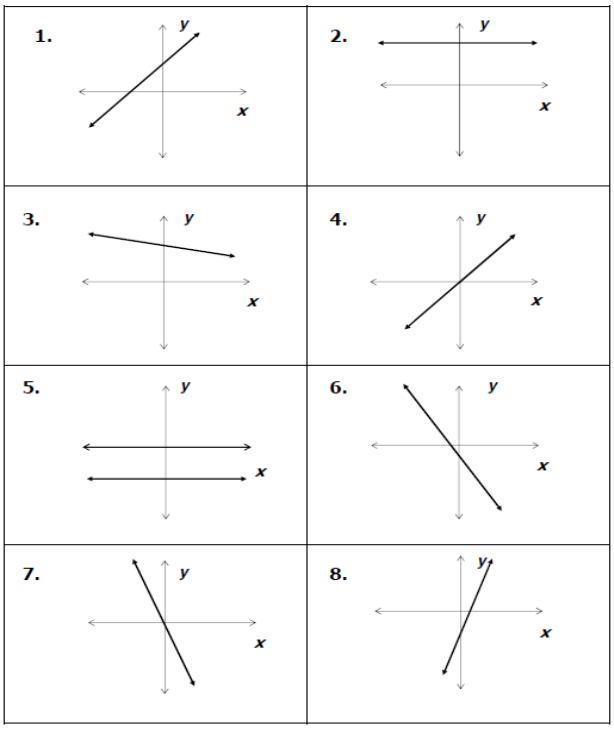
## Alternate Version




| Line | Slope | Y-intercept | Equation y=mx+b |
|---|---|---|---|
| Line 1 | | | |
| Line 2 | | | |
| Line 3 | | | |
| Line 4 | | | |

STATION I

**Graphs of Linear Functions:** Cut out the boxes below and group the graphs according to slope: negative, zero, positive.




## Station N

Use the 3 marker boards provided. Graph lines and write equations to meet the conditions given for each Markerboard:

**First Markerboard:**

Graph 3 parallel lines. Label each with its equation.

**Second Markerboard:**

Graph 3 lines that have a y-intercept of – 2. Label each with its equation.

**Third Markerboard:**

Graph and label the following 3 lines with their equations:

- Line L: This line has a slope of 0.
- Line H: This line is parallel to Line L.
- Line K: This line is perpendicular to Line L.

Station E

Complete the Link Sheet to represent the information about Irina's Exercise Program in multiple ways. Also, use the information to answer the question in the Communicate box.

## Irina's Exercise Program

Currently, Irina exercises a total of 135 minutes during each week. She is planning to begin the following new exercise program.

- The exercise program will last 6 weeks.
- During each week of the exercise program, she will exercise 15 minutes more that she exercised the previous week.

Adapted from 2006 MCAS Mathematics Assessment Test
Grade 8 Question 28

Station E

Communicating what we know about:
Irina's Exercise Program

Currently, Irina exercises a total of 135 minutes during each week. She is planning to begin the following new exercise program.

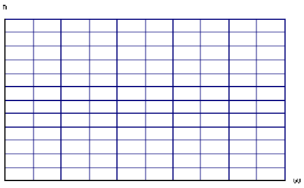
- The exercise program will last 6 weeks.
- During each week of the exercise program, she will exercise 15 minutes more that she exercised the previous week.

**Table**

Minutes of Exercise During Each Week

| Week ($w$) | Number of Minutes ($n$) |
|---|---|
| 0 | 135 |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |

**Graph**



**Equation**

For the data shown in the table, write an equation that shows the relationship between $w$ and $n$.

**Communicate**

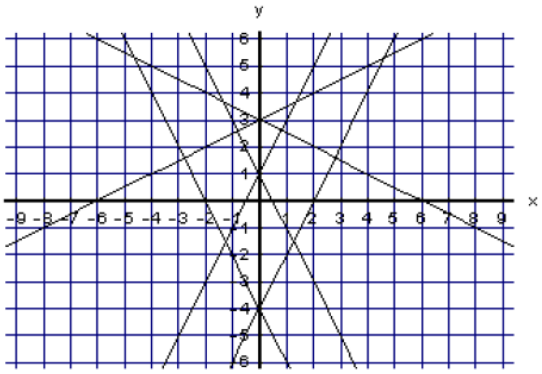
Based on the equation that you wrote, what is the total number of minutes Irina will exercise in week 20 if she continues her exercise program beyond 6 weeks? Show or explain how you got your answer.

Station A

This is a graphing calculator station. Use 6 linear functions, in Y1-Y6, to create the pattern shown below.

The following window was used to create the pattern:

Xmin= -9.4
Xmax = 9.4
Xscl = 1
Ymin = -6.2
Ymax = 6.2
Yscl = 1
Xres = 1




Station R

**MATCHING STATION**
(Use with Algebra Game-Linear Deck b)

At this station, you will need to organize the cards into 4 sets of 5 cards. For each card G1—G4, match the graph to its equation, table of values, slope, and y-intercept. Fill in your answers:

| Graph | Equation | Table of Values | Slope | Y-Intercept |
|---|---|---|---|---|
| G1 | | | | |
| G2 | | | | |
| G3 | | | | |
| G4 | | | | |

## Alternate STATION R

**IT'S A LINEAR MATCH UP**

**Lesson Overview:**

Match the graph cards to the cards that give the corresponding equation, set of table of values/ordered pairs, and description. Then, complete the extension activity.

**Directions:**

- Work in pairs or groups.
- No graphing calculator or computer may be used.
- Complete the matching and record your answers below.

| GRAPH | EQUATION | TABLE OF VALUES (ORDERED PAIRS) | DESCRIPTION |
|---|---|---|---|
| G11 | | | |
| G12 | | | |
| G13 | | | |
| G14 | | | |
| G15 | | | |