

## Grade 9 Mathematics Worksheet

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### Algebraic equations

#### Questions:

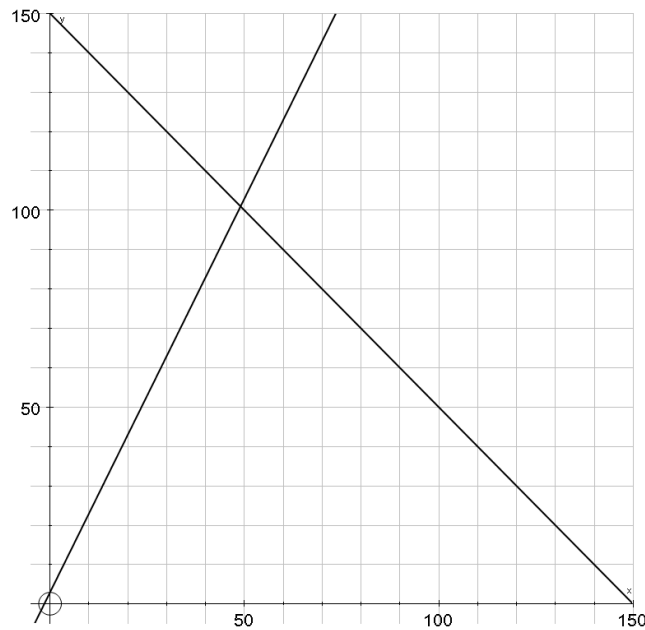
1. Isabella has a total of 150 music CD's. She loves rock music and alternative music. The number of alternative music CD's is three more than twice that of the rock music CD's that she owns.
  - a) Write the two equations that represent this information.
  - b) Draw the two graphs that represent these equations on the same set of axes.
  - c) Show where you can read off how many Rock CD's Isabella owns.
  - d) Work the answer out algebraically to prove that your answer in (c) was right.

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**Solution:**

1. a) Let  $y$  = alternative and  $x$  = Rock.  
Then  $y = 2x + 3$  and  $x + y = 150$ .

b)



- c) At the point of intersection of the two graphs, just below 50 rock CD's.
- d)  $y = 150 - x$  and  $y = 2x + 3$   
 $\therefore 150 - x = 2x + 3$   
 $\therefore -3x = -147$   
 $\therefore x = 49$

The rock CD's are represented on the  $x$  axis.