

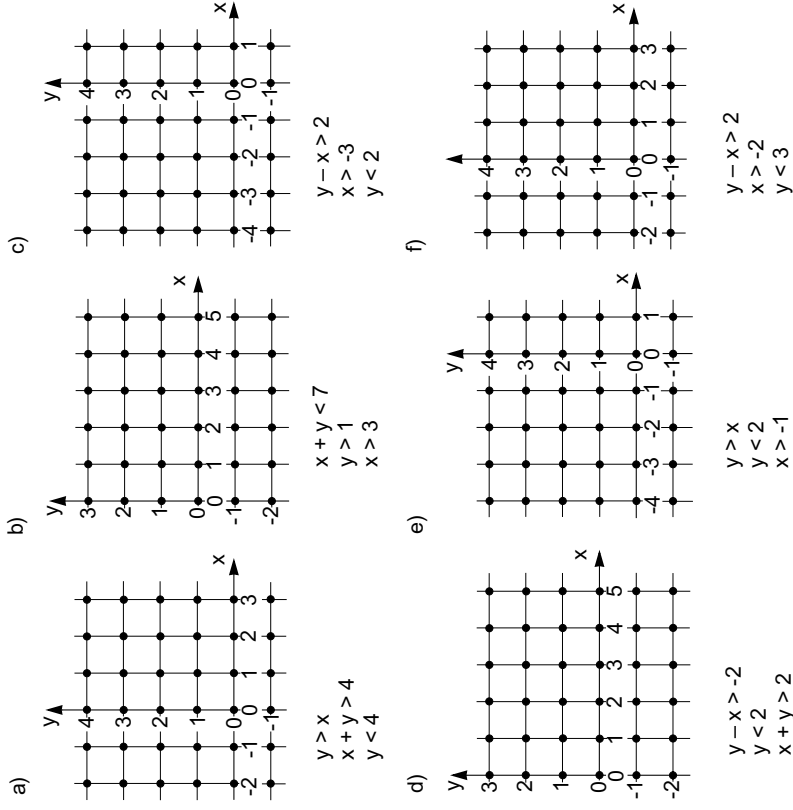
Inequalities

L.7

- 1) In each of the following inequalities the values of x are integers. Write down the solutions in each case.

- a) $5 < x < 9$
- b) $6 < x < 10$
- c) $-3 < x < 1$
- d) $-8 < x < -5$
- e) $-4 < x < -1$
- f) $-15 < x < -12$
- g) $5 < x + 1 < 9$
- h) $6 < x + 1 < 10$
- i) $-3 < x + 1 < 1$
- j) $5 < x + 3 < 9$
- k) $6 < x + 6 < 10$
- l) $-3 < x + 4 < 1$
- m) $5 < x - 1 < 9$
- n) $6 < x - 3 < 10$
- o) $-3 < x - 3 < 1$
- p) $2 < 2x < 12$
- q) $3 < 2x < 12$
- r) $4 < 3x < 15$
- s) $2 < 2x - 1 < 9$
- t) $3 < 2x - 1 < 13$
- u) $-2 < 3x + 4 < 7$
- v) $-3 < 2x - 2 < 14$
- w) $-4 < 2x - 4 < 10$
- x) $-6 < 3x - 2 < 3$

- 2) In each of the following diagrams, the information given will eliminate all the points except one. In each case write down the point.



Simultaneous Equation Problems

L.8

- 1) In September, the maths department bought 5 reams of lined paper and 2 reams of graph paper for £25.

In January, they bought 6 reams of lined paper and 4 reams of graph paper for £38. Write down two simultaneous equations, letting x represent the cost of a ream of lined paper and y the cost of a ream of graph paper. Use these equations to calculate the values of x and y .

In May they bought 6 reams of lined paper and 2 reams of graph paper. What did it cost?

- 2) Mrs. Jenkins buys 5kg of potatoes and 3kg of carrots for £1.38.

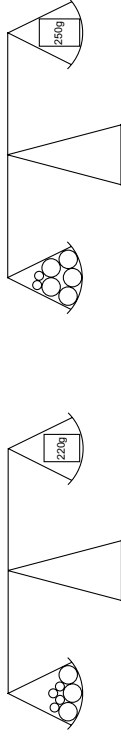
Mr Parry buys 8kg of potatoes and 4kg of carrots for £2.04.

Letting x represent the cost of the potatoes and y the cost of the carrots, write down two simultaneous equations.

Showing all your workings, calculate the values of x and y .

What will Mr Pugh have to pay for 7kg of potatoes and 2kg of carrots?

- 3) Dean has a number of small weights all of the same mass, and some larger weights all of the same mass. He tries to calculate their sizes by weighing them against two packets of cheese he has. The 220g block of cheese weighs the same as 4 small weights and 3 large weights. The 250g block of cheese weighs the same as 2 small weights and 5 large weights.



Letting x represent the mass of a small weight and y the mass of a large weight, write down two simultaneous equations.

Use the equations to calculate the masses of the two sizes of weights.

- 4) A quiz game has two types of question, hard and easy.

Team A answers 3 hard questions and 5 easy questions correctly to get 25 points.

Team B answers 4 hard questions and 2 easy questions correctly to get 24 points.

Write down two simultaneous equations using h to represent the points scored for answering a hard question correctly and e to represent the points scored when answering an easy question correctly.

Use the equations to calculate the values of h and e .

Team C answers 6 hard questions correctly and 1 easy question correctly.

How many points do they score?