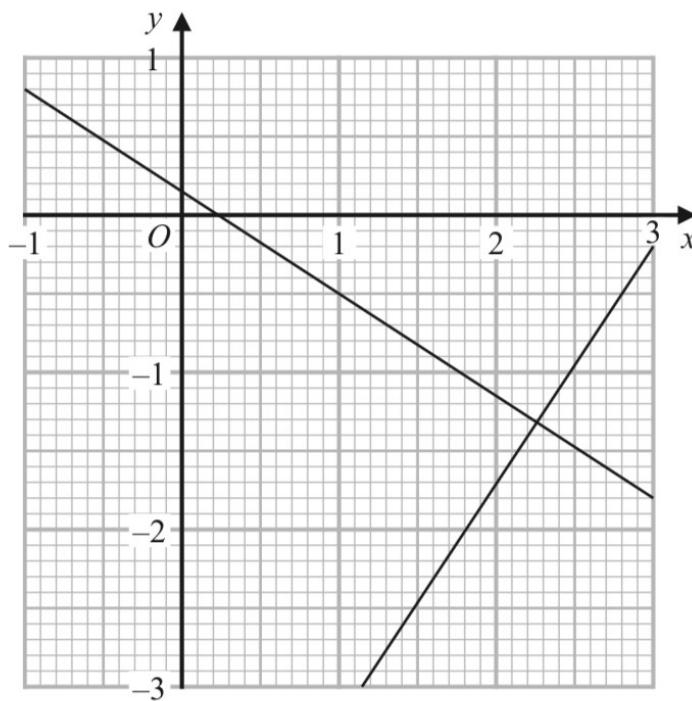


Question 1 (2 Marks)

The graphs with equations $3y + 2x = \frac{1}{2}$ and $2y - 3x = -\frac{113}{12}$ have been drawn on the grid below.



Using the graphs, find estimates of the solutions of the simultaneous equations

$$3y + 2x = \frac{1}{2}$$

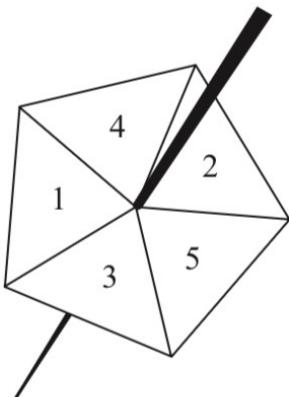
$$2y - 3x = -\frac{113}{12}$$

$$x = \dots$$

$$y = \dots$$

Question 2 (4 Marks)

Lina spins a biased 5-sided spinner 40 times.



Here are her results.

Score	1	2	3	4	5
Frequency	6	8	9	7	10

Lina is now going to spin the spinner another two times.

(a) Work out an estimate for the probability that she gets a score of 5 both times.

.....
(2)

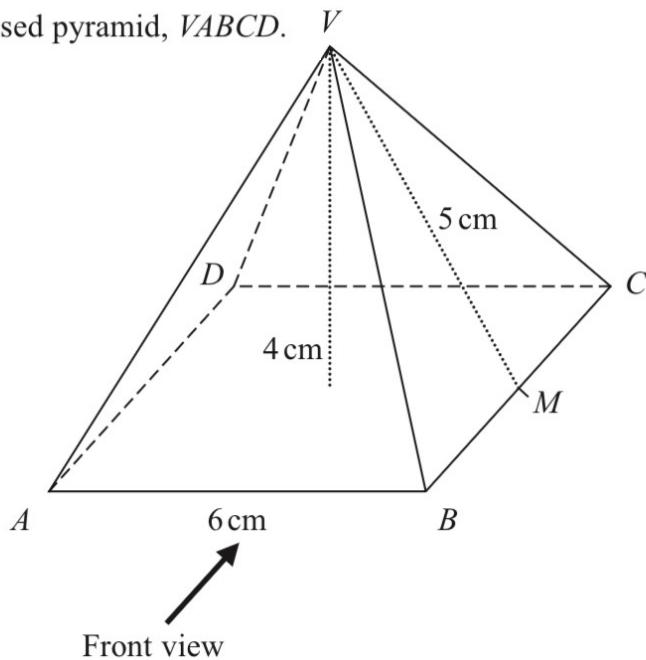
Derek is going to spin the spinner a large number of times.

(b) Work out an estimate for the percentage of times Derek can expect to get a score of 1

.....
%
(2)

Question 3 (6 Marks)

Here is a solid square-based pyramid, $VABCD$.

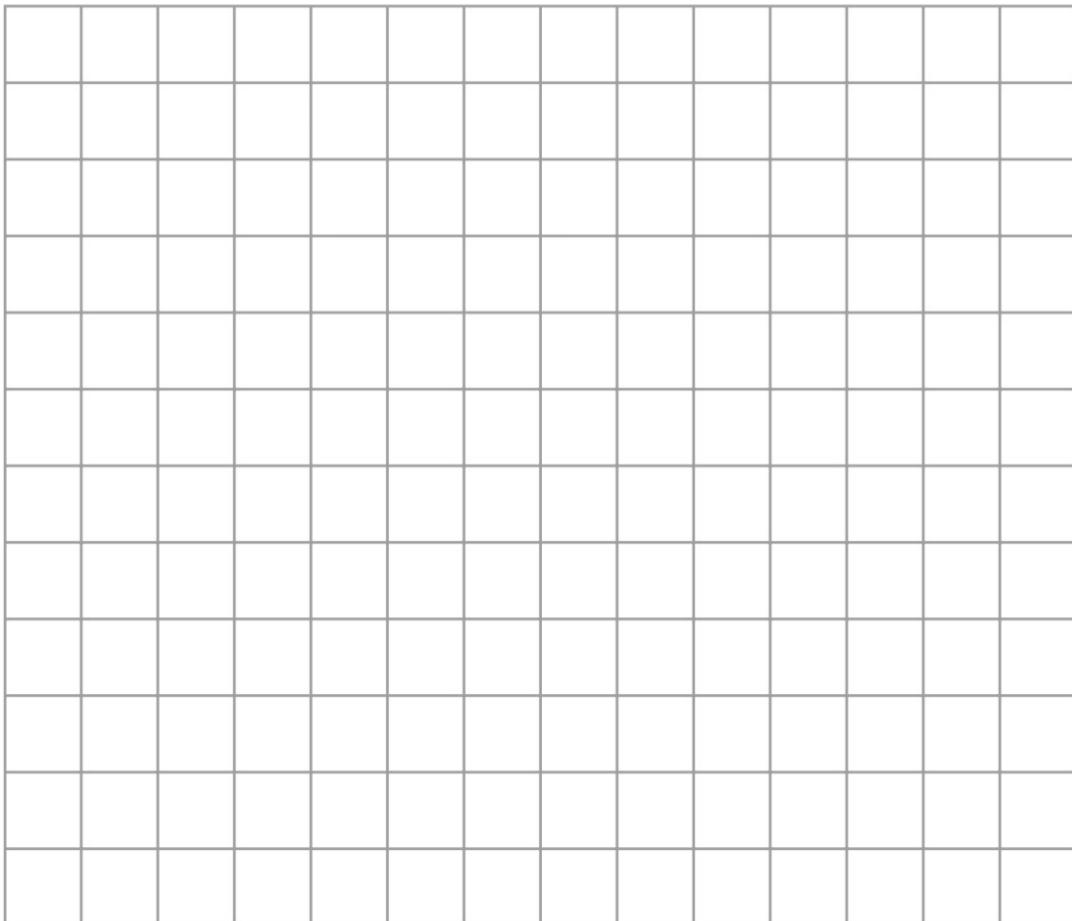


The base of the pyramid is a square of side 6 cm.

The height of the pyramid is 4 cm.

M is the midpoint of BC and $VM = 5$ cm.

(a) Draw an accurate front elevation of the pyramid from the direction of the arrow.



(2)

(b) Work out the total surface area of the pyramid.

.....
(4)

Question 4 (3 Marks)

(a) Simplify $(p^2)^5$

.....
(1)

(b) Simplify $12x^7y^3 \div 6x^3y$

.....
(2)

(Total 15 Marks)