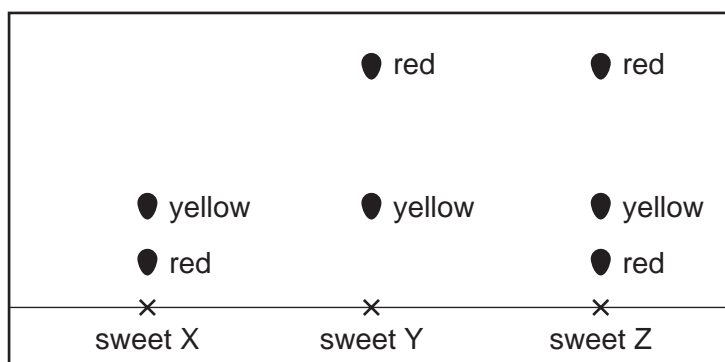


Paper 1

Questions are applicable for both core and extended candidates

- 1 The diagram shows a chromatogram obtained from the colours of three different sweets, X, Y and Z.



How many different **red** dyes are present in the sweets?

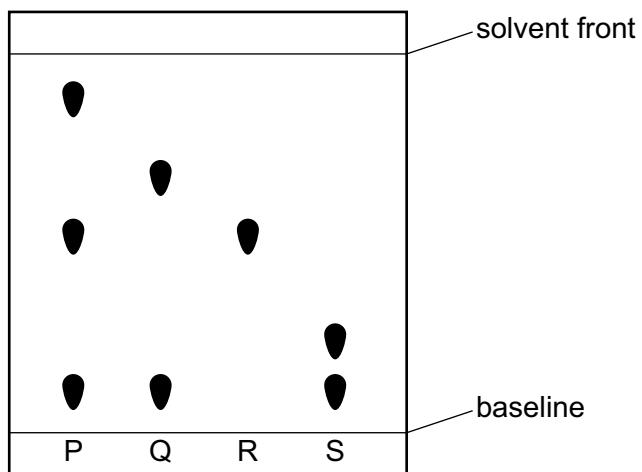
- A** 1 **B** 2 **C** 3 **D** 4
- 2 The results of two tests on aqueous compound X are given.

test	result
warm with aluminium foil and aqueous sodium hydroxide	ammonia is produced
aqueous sodium hydroxide	brown precipitate

What is X?

- A** iron(III) nitrate
B iron(II) nitrate
C iron(III) sulfate
D iron(II) sulfate

3 The chromatogram obtained from four mixtures of dyes, P, Q, R and S, is shown.



What is the total number of different dyes identified in the four mixtures?

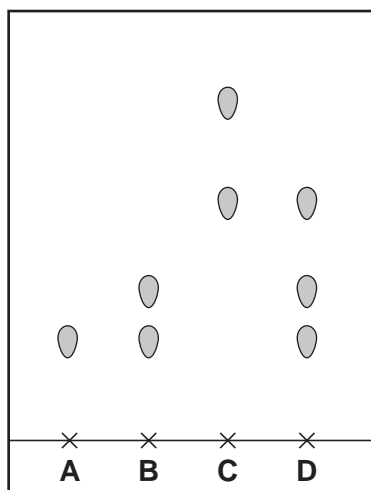
A 3

B 4

C 5

D 8

4 Which dye on the chromatogram is a pure substance?

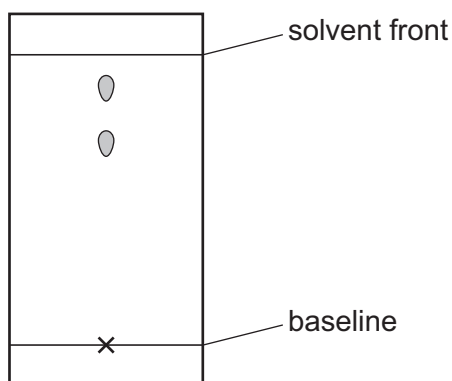


Paper 2

Questions are applicable for both core and extended candidates unless indicated in the question

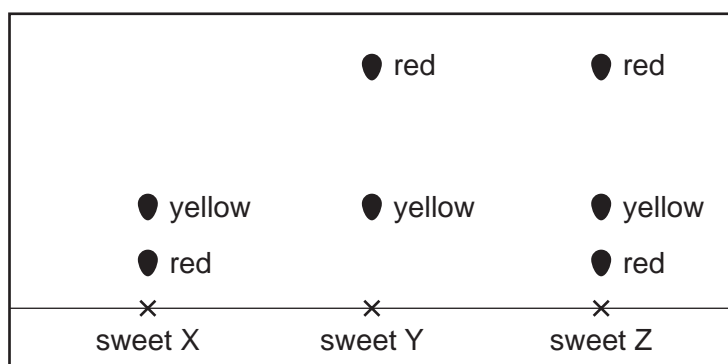
- 5 Substance Q is tested using paper chromatography.

The resulting chromatogram is shown.



Which statement is correct?

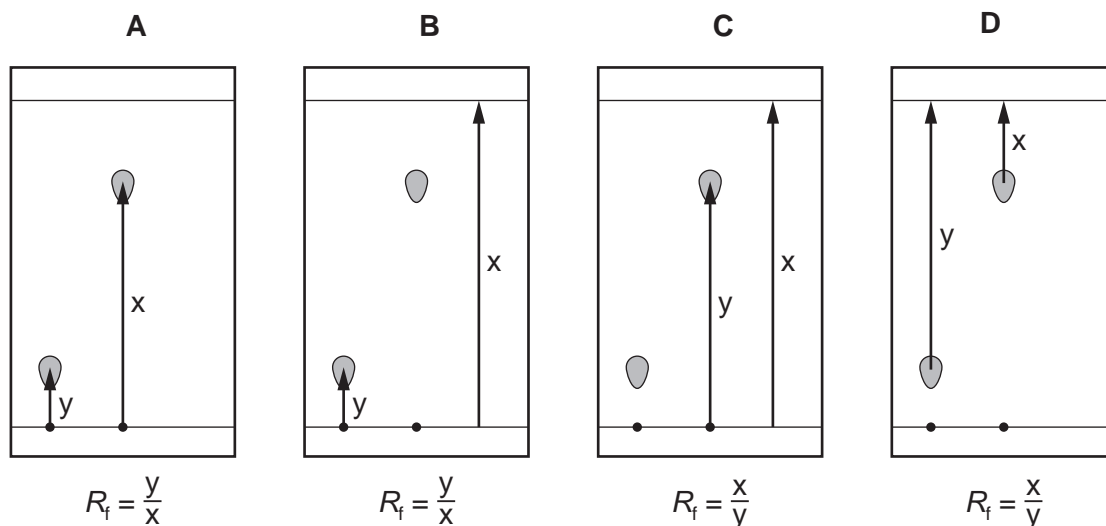
- A Q is a pure substance.
B The R_f value of the lower spot is 0.25.
C Q is a mixture of at least two different substances.
D Q is a compound of two elements.
- 6 The diagram shows a chromatogram obtained from the colours of three different sweets, X, Y and Z.



How many different **red** dyes are present in the sweets?

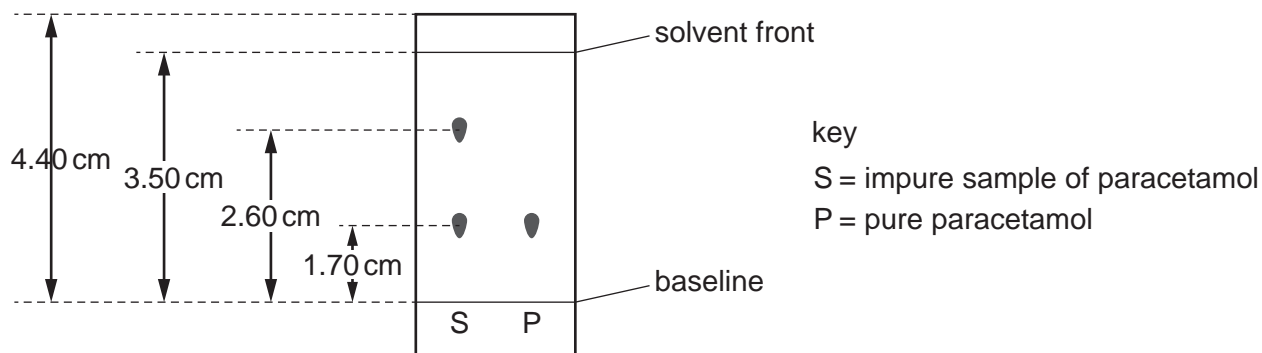
- A 1 B 2 C 3 D 4

7 Which chromatogram shows how the R_f value of a substance is calculated?



8 The painkiller paracetamol is synthesised from 4-aminophenol.

Chromatography is done on an impure sample of paracetamol. The results are shown. The diagram is not drawn to scale.



The sample of paracetamol is contaminated with 4-aminophenol only.

What is the R_f value of 4-aminophenol?

- A 0.49 B 0.65 C 0.74 D 1.35

9 A student does paper chromatography on a mixture of amino acids.

The student sprays the dried chromatogram with a locating agent.

What is the function of the locating agent?

- A to dissolve the amino acids
B to form coloured spots with the amino acids
C to preserve the amino acids
D to stop the amino acids reacting

10 A coloured dye is separated by chromatography.

One component of the dye moves a distance of 13 cm and has an R_f value of 0.86.

Which distance did the solvent front move?

A 6.6 cm

B 11.9 cm

C 15.1 cm

D 21.6 cm