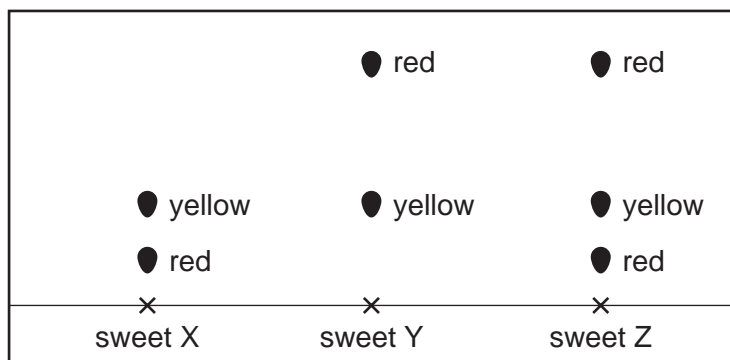


Paper 1

Questions are applicable for both core and extended candidates

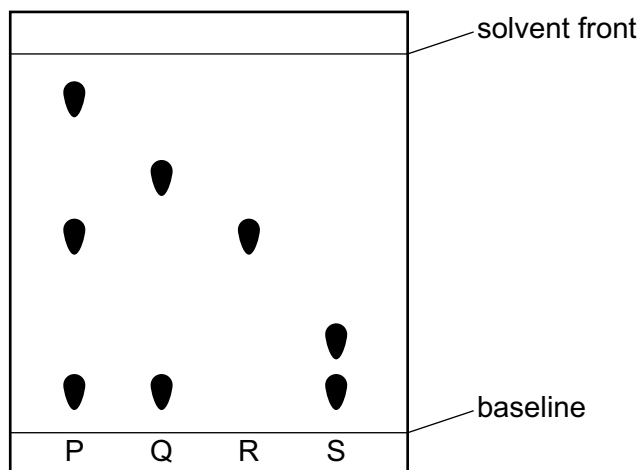
- 1 The diagram shows a chromatogram obtained from the colours of three different sweets, X, Y and Z.



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

- A** 1 **B** 2 **C** 3 **D** 4

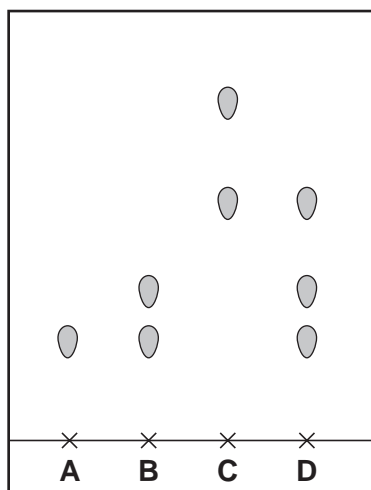
- 2 The chromatogram obtained from four mixtures of dyes, P, Q, R and S, is shown.



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

- A** 3 **B** 4 **C** 5 **D** 8

- 3 Which dye on the chromatogram is a pure substance?

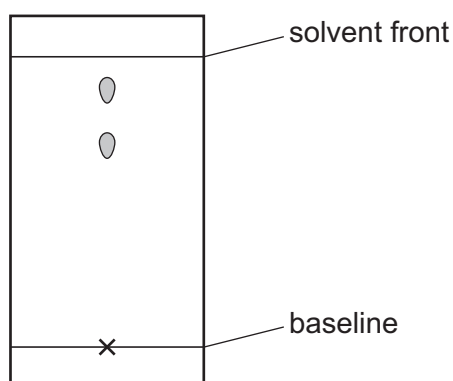


Paper 2

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

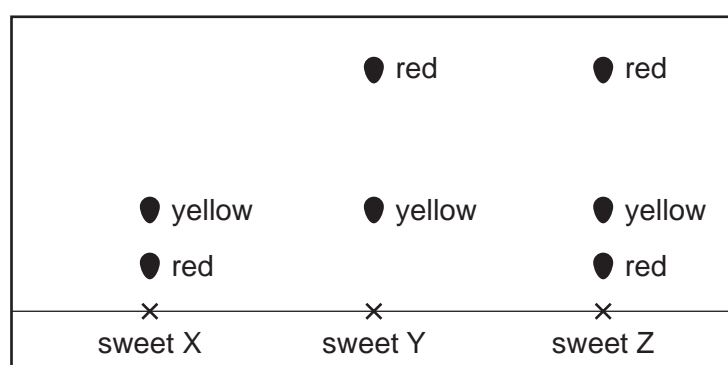
- 4 Substance Q is tested using paper chromatography.

The resulting chromatogram is shown.



Which statement is correct? (extended only)

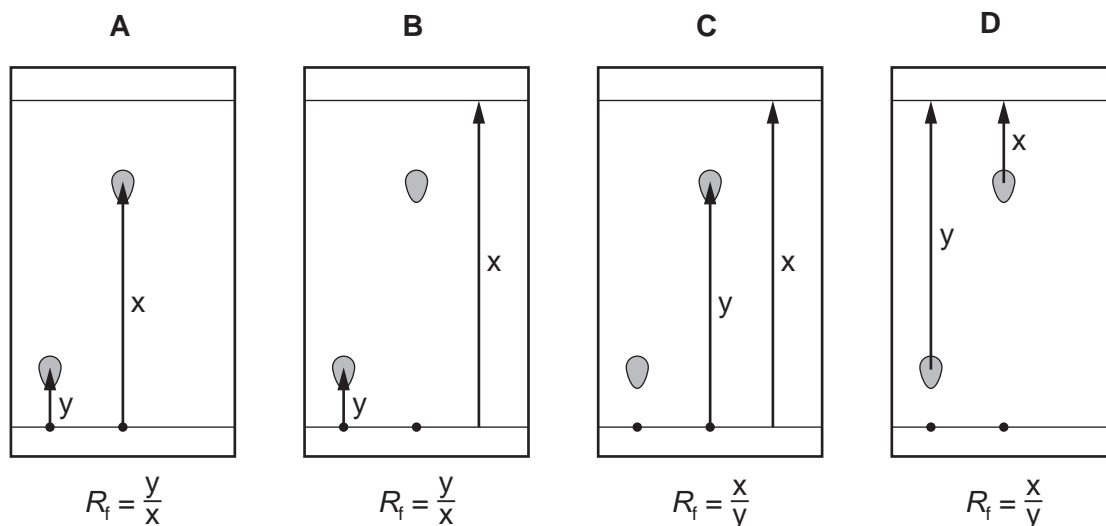
- A** Q is a pure substance.
- B** The R_f value of the lower spot is 0.25.
- C** Q is a mixture of at least two different substances.
- D** Q is a compound of two elements.
- 5 The diagram shows a chromatogram obtained from the colours of three different sweets, X, Y and Z.



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

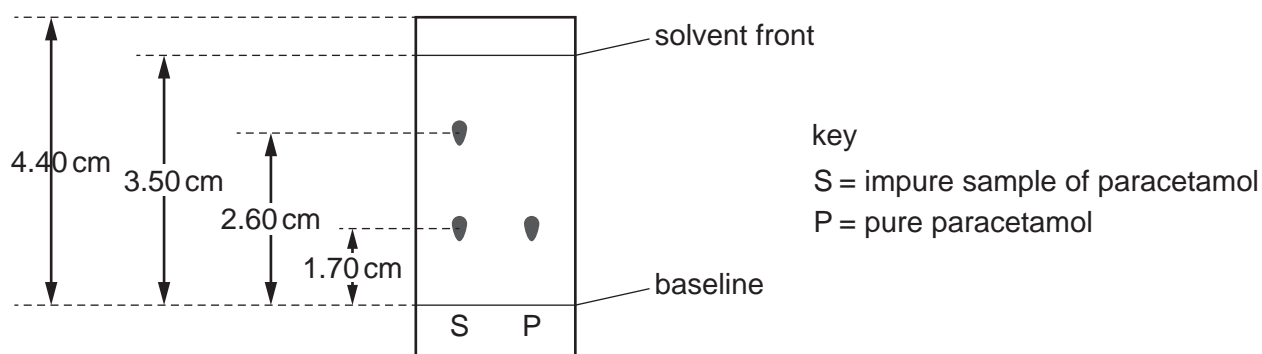
- A** 1 **B** 2 **C** 3 **D** 4

- 6 Which chromatogram shows how the R_f value of a substance is calculated? (extended only)



- 7 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? (extended only)

- A 0.49 B 0.65 C 0.74 D 1.35

- 8 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? (extended only)

- 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

- 9 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? **(extended only)**

- A** 6.6 cm **B** 11.9 cm **C** 15.1 cm **D** 21.6 cm