

**AQA – Chemical analysis – GCSE 2022 CS Chemistry**

1. *June/2022/Paper\_8464/C/2F/No.6*

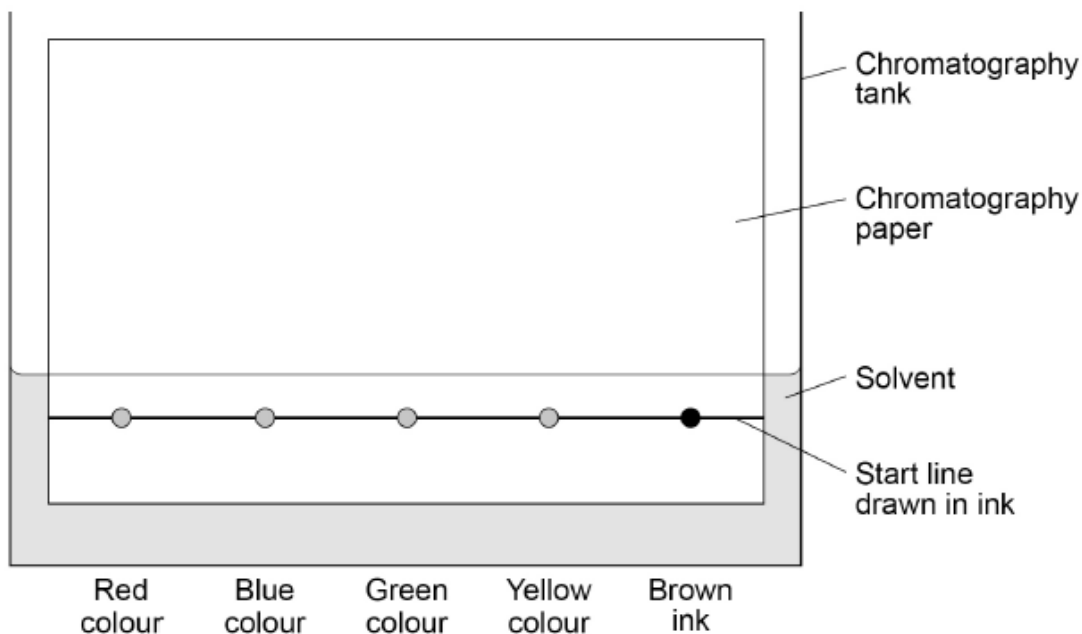
0 6

A student investigated the colours in a brown ink using chromatography.

0 6 . 1

**Figure 10** shows the apparatus used.

**Figure 10**



Give **two** errors made by the student.

Describe the problem each error would cause.

**[4 marks]**

Error 1 \_\_\_\_\_

\_\_\_\_\_

Problem 1 \_\_\_\_\_

\_\_\_\_\_

Error 2 \_\_\_\_\_

\_\_\_\_\_

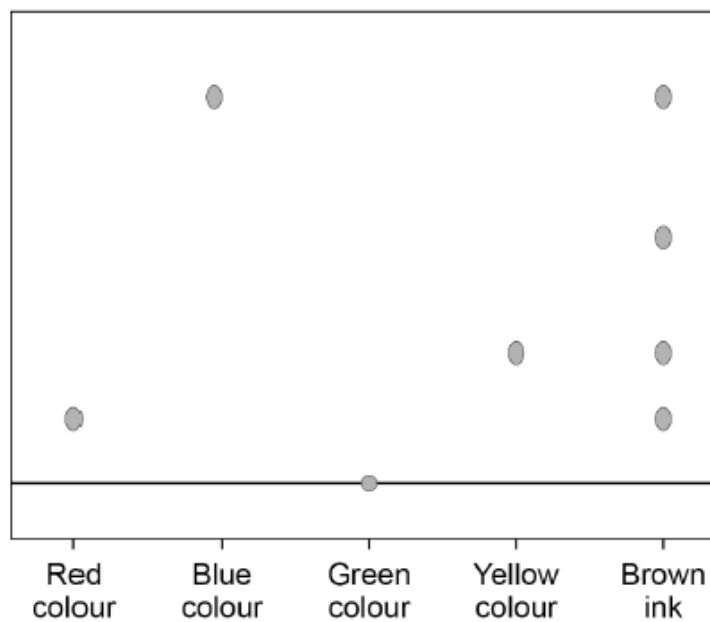
Problem 2 \_\_\_\_\_

\_\_\_\_\_

A different student set up the apparatus correctly.

**Figure 11** shows the results.

**Figure 11**



**0 6 . 2** Give **two** conclusions the student can make from **Figure 11** about the four colours in the brown ink.

**[2 marks]**

1 \_\_\_\_\_

2 \_\_\_\_\_

0 6 . 3 Why was the green colour still on the start line at the end of the experiment?

[1 mark]

Tick (✓) **one** box.

The experiment was left for too long.

The green colour was insoluble in the solvent.

The green spot contained too many colours.

The green spot was too small.

0 6 . 4 A student calculated the  $R_f$  value of a colour to be 0.24

The colour moved 1.8 cm from the start line.

Calculate the distance the solvent moved.

Use the equation:

$$R_f = \frac{\text{distance moved by colour}}{\text{distance moved by solvent}}$$

[3 marks]

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Distance moved by solvent = \_\_\_\_\_ cm

2. June/2022/Paper\_8464/C/2H/No.1

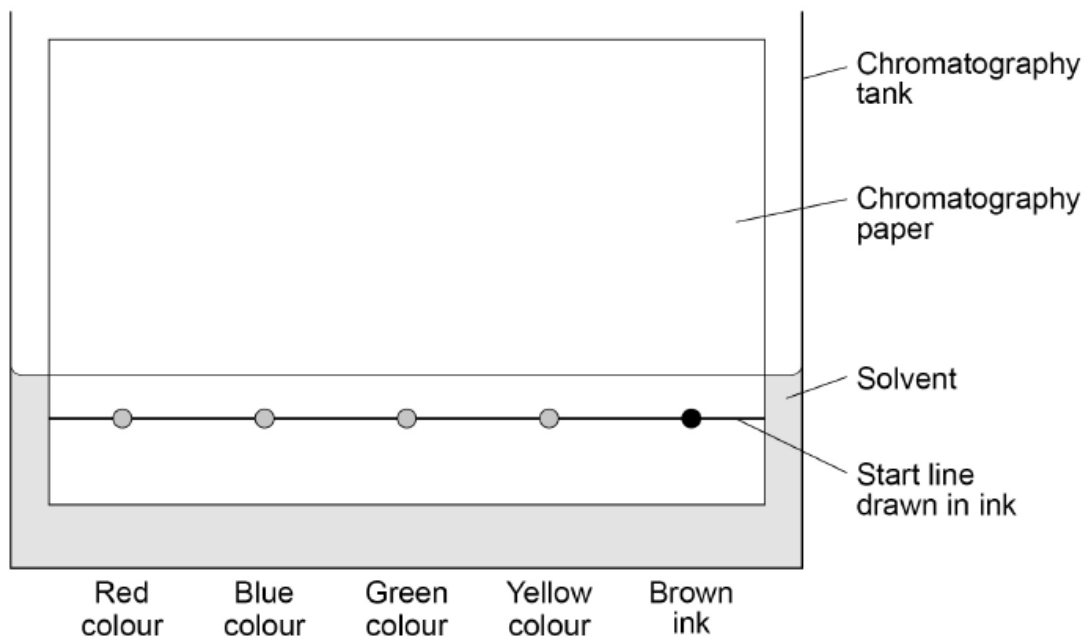
0 1

A student investigated the colours in a brown ink using chromatography.

0 1 . 1

Figure 1 shows the apparatus used.

Figure 1



Give **two** errors made by the student.

Describe the problem each error would cause.

[4 marks]

Error 1 \_\_\_\_\_

\_\_\_\_\_

Problem 1 \_\_\_\_\_

\_\_\_\_\_

Error 2 \_\_\_\_\_

\_\_\_\_\_

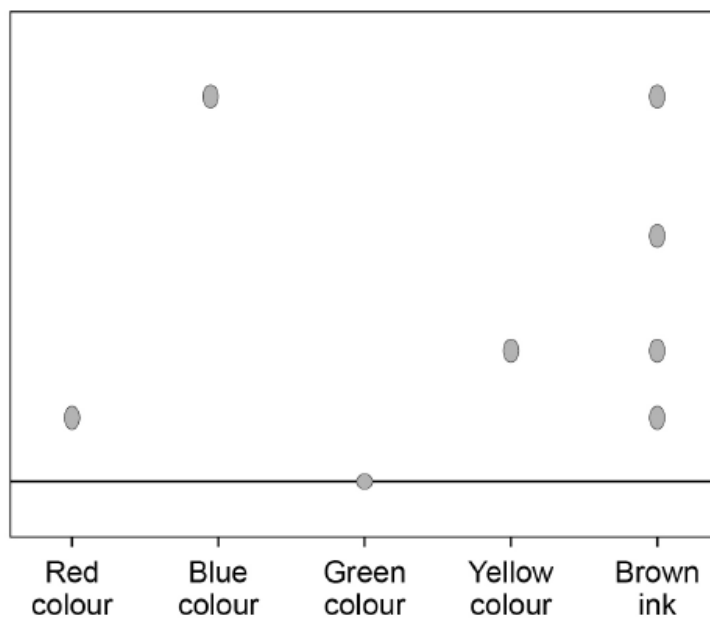
Problem 2 \_\_\_\_\_

\_\_\_\_\_

A different student set up the apparatus correctly.

Figure 2 shows the results.

Figure 2



0 1 . 2

Give **two** conclusions the student can make from **Figure 2** about the four colours in the brown ink.

[2 marks]

- 1 \_\_\_\_\_
- \_\_\_\_\_
- 2 \_\_\_\_\_
- \_\_\_\_\_

0 1 . 3 Why was the green colour still on the start line at the end of the experiment?

[1 mark]

Tick (✓) **one** box.

The experiment was left for too long.

The green colour was insoluble in the solvent.

The green spot contained too many colours.

The green spot was too small.

0 1 . 4 A student calculated the  $R_f$  value of a colour to be 0.24

The colour moved 1.8 cm from the start line.

Calculate the distance the solvent moved.

Use the equation:

$$R_f = \frac{\text{distance moved by colour}}{\text{distance moved by solvent}}$$

[3 marks]

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Distance moved by solvent = \_\_\_\_\_ cm