The Mystery of the Unidentified Christmas Jumper Owner **Answers**

Clue 1: Compare the Fractions and Mixed Numbers

Use a <, > or = symbol to make each statement true. Then, count how many of each symbol you have used to reveal a clue about the year group of the unidentified Christmas jumper owner.

If there are more > symbols, the owner is not in year 1 or year 2.
If there are more = symbols, the owner is not in year 3 or year 4.
If there are more < symbols, the owner is not in year 5 or year 6.

$\dfrac{2}{5}$ **<** $\dfrac{6}{10}$

$\dfrac{3}{4}$ **<** $\dfrac{7}{8}$

$\dfrac{10}{6}$ **=** $1\dfrac{2}{3}$

$\dfrac{5}{2}$ **>** $\dfrac{8}{6}$

$1\dfrac{1}{10}$ **>** $\dfrac{75}{100}$

$\dfrac{18}{9}$ **<** $2\dfrac{1}{3}$

$\dfrac{7}{4}$ **>** $\dfrac{15}{12}$

$2\dfrac{3}{10}$ **<** $\dfrac{7}{2}$

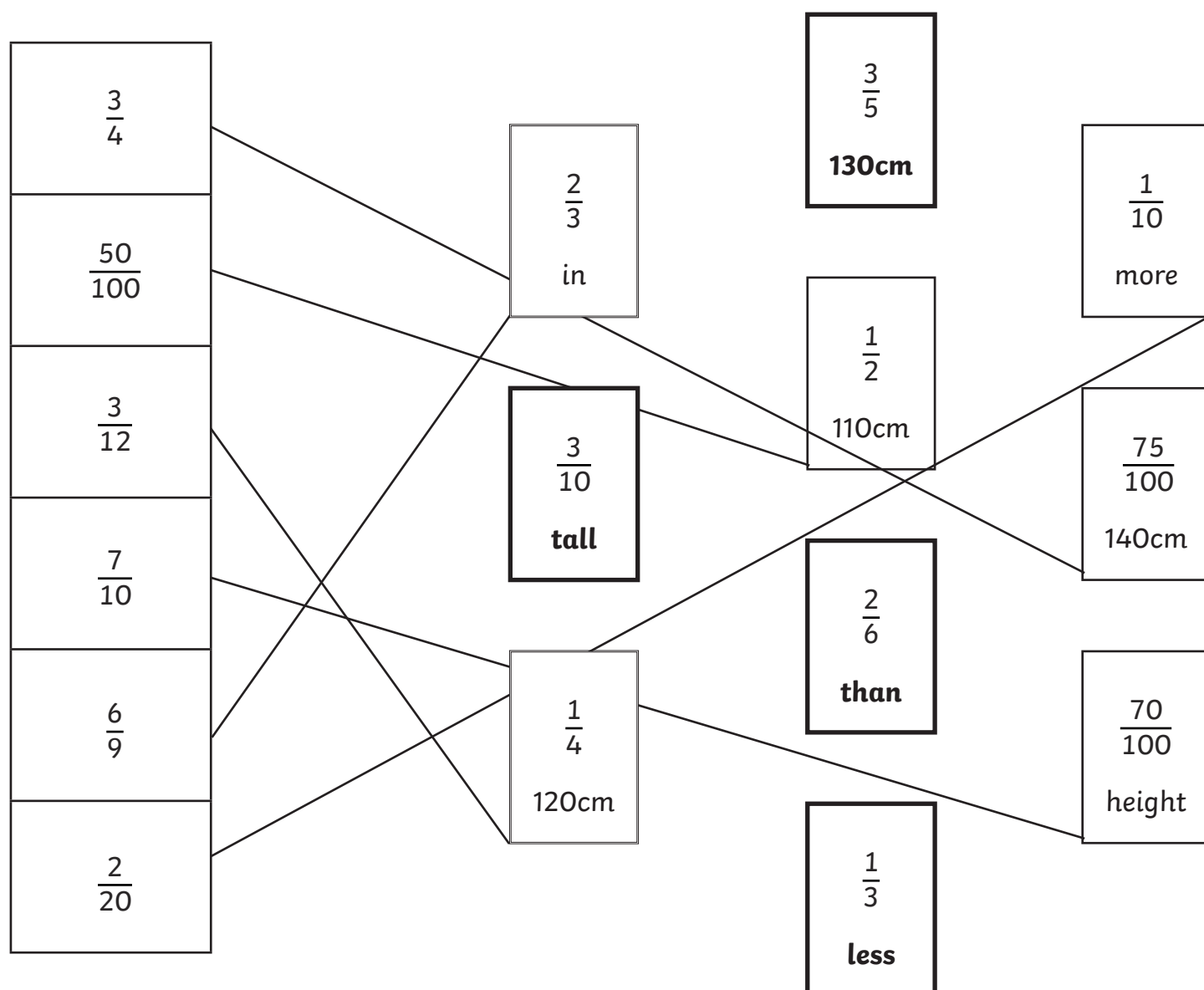| <	=	>
4	1	3

Clue 1: The unidentified Christmas jumper owner is not in year **5** or year **6**.

Clue 2: Equivalent Fraction Match

Match each fraction on the left to its equivalent on the right. Then, rearrange the words on remaining fraction cards to spell out the next clue to reveal information about the height of the unidentified Christmas jumper owner.
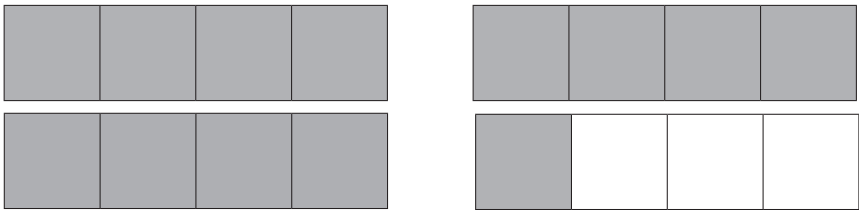
Left column:
$\frac{3}{4}$
$\frac{50}{100}$
$\frac{3}{12}$
$\frac{7}{10}$
$\frac{6}{9}$
$\frac{2}{20}$

Middle cards:
$\frac{3}{5}$ **130cm**

$\frac{2}{3}$ in

$\frac{3}{10}$ **tall**

$\frac{1}{2}$ 110cm

$\frac{1}{4}$ 120cm

$\frac{2}{6}$ **than**

$\frac{1}{3}$ **less**

$\frac{1}{10}$ more

$\frac{75}{100}$ 140cm

$\frac{70}{100}$ height
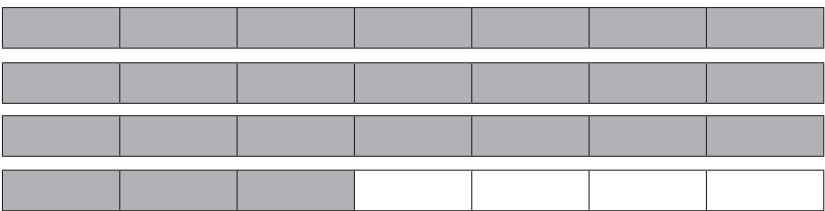
Clue 2: The unidentified Christmas jumper owner is **less than 130cm tall**.

Clue 3: Improper Fractions and Mixed Numbers

Write the number represented in each model as a mixed number and an improper fraction. Then, match each improper fraction and mixed number to the corresponding word in the table. Rearrange the words to spell out the next clue and reveal the eye colour of the unidentified Christmas jumper owner.

Improper Fraction	Model	Mixed Number
$\frac{13}{4}$		$3\frac{1}{4}$
$\frac{8}{3}$		$2\frac{2}{3}$
$\frac{24}{7}$		$3\frac{3}{7}$

$3\frac{1}{4}$ jumper	$\frac{24}{7}$ the	$3\frac{2}{3}$ blue	$\frac{13}{16}$ owner's	$\frac{13}{4}$ eyes	$3\frac{3}{7}$ brown
$4\frac{3}{7}$ hazel	$\frac{8}{9}$ not	$\frac{8}{3}$ has	$4\frac{1}{4}$ green	$2\frac{2}{3}$ owner	$\frac{24}{28}$ are

Clue 3: **The jumper owner has brown eyes.**

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Clue 4: True or False?

Identify whether each mathematical statement is true or false and tick the correct column.

If there are more true answers, the unidentified Christmas jumper owner's favourite Christmas food is mince pies.

If there are more false answers, the unidentified Christmas jumper owner's favourite Christmas food is gingerbread.

	True	False
$\frac{3}{8} + \frac{6}{8} = \frac{9}{8}$	✔	
$\frac{14}{10} - \frac{2}{5} = 1$	✔	
$\frac{5}{6} - \frac{1}{3} = \frac{4}{3}$		✔
$\frac{1}{4} + \frac{5}{2} = \frac{11}{4}$	✔	
$\frac{67}{100} - \frac{4}{10} = \frac{63}{90}$		✔
$\frac{12}{9} = \frac{8}{3} + \frac{4}{6}$		✔
$\frac{9}{10} - \frac{10}{100} = \frac{1}{100}$		✔
Total	3	4

Clue 4: The unidentified Christmas jumper owner's favourite Christmas food is **gingerbread.**

Clue 5: Ordering Fractions

Order each group of fractions order from smallest to greatest. Then, add the fractions highlighted together and match the answer to a word to reveal the jumper size of the unidentified Christmas jumper owner.

Group 1:

$\frac{1}{4}$ $\quad$ $\frac{3}{4}$ $\quad$ $\frac{1}{2}$ $\quad$ $\frac{7}{4}$ $\quad$ $\frac{3}{2}$

$\frac{1}{4}$ $\quad$ $\frac{1}{2}$ $\quad$ $\boxed{\frac{3}{4}}$ $\quad$ $\frac{3}{2}$ $\quad$ $\frac{7}{4}$

smallest $\qquad$ greatest

Group 2:

$\frac{12}{4}$ $\quad$ $\frac{11}{8}$ $\quad$ $\frac{20}{8}$ $\quad$ $\frac{7}{4}$ $\quad$ $\frac{9}{4}$

$\frac{11}{8}$ $\quad$ $\boxed{\frac{7}{4}}$ $\quad$ $\frac{9}{4}$ $\quad$ $\frac{20}{8}$ $\quad$ $\frac{12}{4}$

smallest $\qquad$ greatest

Group 3:

$\frac{13}{8}$ $\quad$ $\frac{6}{4}$ $\quad$ $\frac{10}{4}$ $\quad$ $\frac{18}{8}$ $\quad$ $\frac{8}{4}$

$\frac{6}{4}$ $\quad$ $\frac{13}{8}$ $\quad$ $\frac{8}{4}$ $\quad$ $\frac{18}{8}$ $\quad$ $\boxed{\frac{10}{4}}$

smallest $\qquad$ greatest

Group 4:

$\frac{9}{4}$ $\quad$ $\frac{3}{4}$ $\quad$ $\frac{7}{2}$ $\quad$ $\frac{15}{4}$ $\quad$ $\frac{4}{2}$

$\frac{3}{4}$ $\quad$ $\frac{4}{2}$ $\quad$ $\boxed{\frac{9}{4}}$ $\quad$ $\frac{7}{2}$ $\quad$ $\frac{15}{4}$

smallest $\qquad$ greatest

$$\boxed{\frac{3}{4}} + \boxed{\frac{7}{4}} + \boxed{\frac{10}{4}} + \boxed{\frac{9}{4}} = \boxed{\frac{29}{4}}$$

$\frac{29}{16}$	$\frac{29}{4}$	$\frac{29}{8}$
small	**large**	medium

Clue 5: The size of the jumper that belongs to the unidentified Christmas jumper owner is **large**.

The Christmas jumper owner is **Cordelia Baker.**