Fractions A

Autumn Term Block 4

Answers

Y5 – Autumn – Block 4 – Step 1 – Find fractions equivalent to a unit fraction Answers

Question	Answer
1	a) $\frac{3}{12}$ b) $\frac{2}{12}$ c) $\frac{3}{15}$ d) $\frac{4}{20}$
2	$\frac{\mathbf{3}}{15}$
3	a) $\frac{2}{4}$ b) $\frac{3}{6}$
4	multiple possible answers, e.g. $\frac{2}{6}$ $\frac{3}{9}$ $\frac{4}{12}$
5	a) $\frac{4}{28}$ $\frac{3}{27}$ b) $\frac{6}{\mathbf{18}}$ $\frac{\mathbf{9}}{27}$
6	a) $\frac{6}{\mathbf{24}}$ b) $\frac{5}{\mathbf{25}}$ c) $\frac{\mathbf{6}}{48}$ d) $\frac{\mathbf{7}}{49}$ e) $\frac{9}{\mathbf{81}}$ f) $\frac{1}{\mathbf{3}}$ g) $\frac{1}{\mathbf{10}}$ h) $\frac{\mathbf{12}}{144}$ i) $\frac{1}{\mathbf{5}}$
7	Tiny has added 2 to both the numerator and the denominator. The numerator and denominator need to be multiplied by the same number to be equivalent.
8	 = 3  = 9  = 2  = 6  = 18

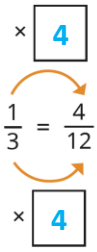
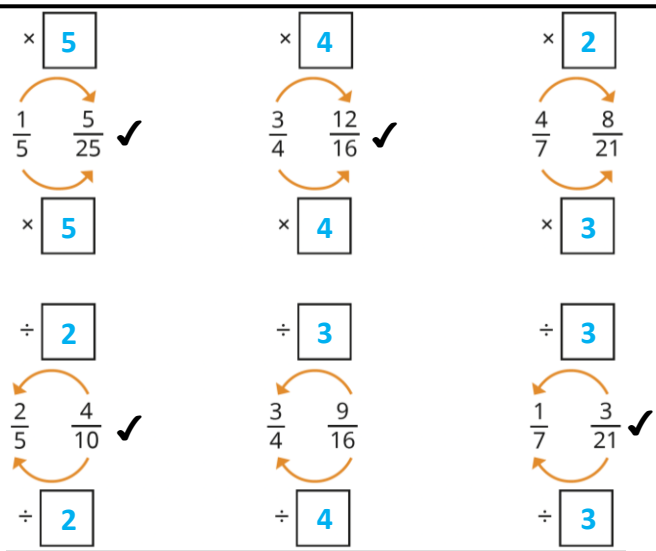
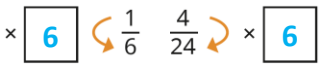
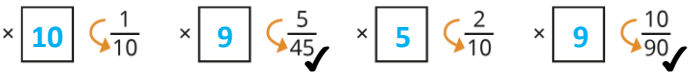
Y5 – Autumn – Block 4 – Step 2 – Find fractions equivalent to a non-unit fraction Answers

Question	Answer
1	a) $\frac{9}{12}$ b) $\frac{4}{10}$ c) $\frac{6}{9}$ d) $\frac{16}{20}$
2	a) $\frac{3}{15}$ b) $\frac{6}{15}$ c) $\frac{9}{15}$ d) $\frac{12}{15}$
3	a) $\frac{10}{12}$ b) $\frac{15}{18}$
4	multiple possible answers, e.g. $\frac{8}{14}$ $\frac{12}{21}$ $\frac{16}{28}$
5	a) $\frac{20}{45}$ b) $\frac{6}{7}$
6	a) $\frac{6}{8}$ b) $\frac{12}{15}$ c) $\frac{30}{48}$ d) $\frac{21}{49}$ e) $\frac{21}{27}$ f) $\frac{2}{6}$ g) $\frac{2}{10}$ h) $\frac{84}{144}$ i) $\frac{5}{8}$

Y5 – Autumn – Block 4 – Step 2 – Find fractions equivalent to a non-unit fraction Answers (continued)

Question	Answer
7	$\frac{16}{24}$ $\frac{10}{14}$ $\frac{7}{11}$ $\frac{2}{3}$ In $\frac{8}{14}$ and $\frac{7}{11}$, Tiny has added or subtracted from both the numerator and the denominator, instead of multiplying or dividing.
8	A = 1, B = 27, C = 10
9	C = 24 (A = 6, B = 7) or C = 28 (A = 7, B = 6)
10	 = 14

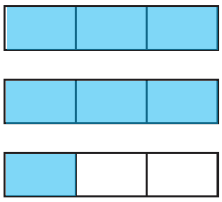
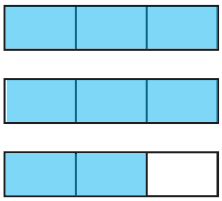
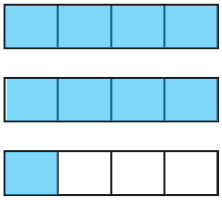
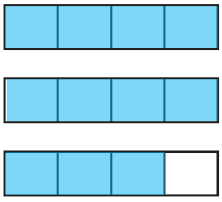
Y5 – Autumn – Block 4 – Step 3 – Recognise equivalent fractions Answers

Question	Answer
1	a) two of: $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$ $\frac{5}{10}$ b) $\frac{2}{3}$ $\frac{6}{9}$
2	
3	a), b) 
4	 Yes The numerator is multiplied by the same number to get the denominator.
5	a), b) 
6	a) **$\frac{4}{32}$** $\frac{3}{10}$ **$\frac{100}{800}$** $\frac{10}{18}$ **$\frac{5}{40}$** b) $\frac{14}{10}$ $\frac{6}{8}$ **$\frac{10}{14}$** **$\frac{50}{70}$** **$\frac{60}{84}$** c) **$\frac{18}{24}$** $\frac{12}{15}$ **$\frac{81}{108}$** **$\frac{3}{4}$** $\frac{36}{60}$
7	They are both equivalent to $\frac{4}{5}$

Y5 – Autumn – Block 4 – Step 3 – Recognise equivalent fractions Answers (continued)

Question	Answer
8	possible answers: $\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{5}{10} = \frac{10}{20}$ $\frac{1}{4} = \frac{2}{8} = \frac{5}{20}$ $\frac{2}{5} = \frac{4}{10} = \frac{8}{20}$
9	A 9, B 12, C 27, D 36, E 3= F = 4

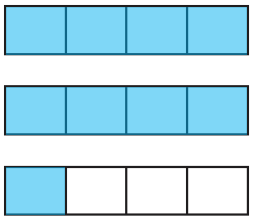
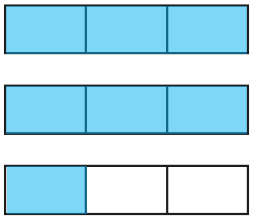
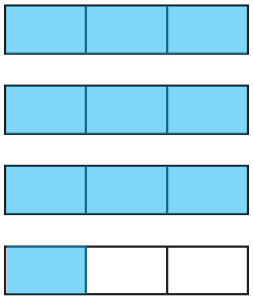
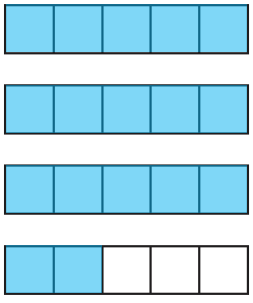
Y5 – Autumn – Block 4 – Step 4 – Convert improper fractions to mixed numbers Answers

Question	Answer
1	a) $\frac{8}{5} = 1\frac{3}{5}$ b) $\frac{12}{5} = 2\frac{2}{5}$ c) $\frac{9}{4} = 2\frac{1}{4}$ d) $\frac{5}{3} = 1\frac{2}{3}$
2	a)  $\frac{7}{3} = 2\frac{1}{3}$ b)  $\frac{8}{3} = 2\frac{2}{3}$ c)  $\frac{9}{4} = 2\frac{1}{4}$ d)  $\frac{11}{4} = 2\frac{3}{4}$
3	a) 5 b) $3\frac{1}{3}$ c) $2\frac{2}{4}$ or $2\frac{1}{2}$ d) 2 e) $2\frac{2}{5}$ f) $2\frac{1}{6}$ g) $1\frac{6}{7}$ h) $3\frac{7}{8}$

Y5 – Autumn – Block 4 – Step 4 – Convert improper fractions to mixed numbers Answers (continued)

Question	Answer
4	$3\frac{1}{2}$ litres
5	Dexter has just moved the first digit of the denominator to be the whole number. He needs to divide 32 by 3 to find the whole number and the remainder. $\frac{32}{3} = 10\frac{2}{3}$
6	● = 5
7	possible answers: ☆ = 7 ▲ = 4 ☆ = 14 ▲ = 2 ☆ = 28 ▲ = 1

Y5 – Autumn – Block 4 – Step 5 – Convert mixed numbers to improper fractions Answers

Question	Answer
1	a) $\frac{11}{4}$ b) $\frac{19}{8}$ c) $\frac{27}{8}$
2	a)  $2\frac{1}{4} = \boxed{\frac{9}{4}}$ b)  $2\frac{1}{3} = \boxed{\frac{7}{3}}$ c)  $3\frac{1}{3} = \boxed{\frac{10}{3}}$ d)  $3\frac{2}{5} = \boxed{\frac{17}{5}}$

Y5 – Autumn – Block 4 – Step 5 – Convert mixed numbers to improper fractions Answers (continued)

Question	Answer
3	a) $2\frac{1}{7} = \frac{15}{7}$ $2\frac{2}{7} = \frac{16}{7}$ $2\frac{3}{7} = \frac{17}{7}$ $2\frac{4}{7} = \frac{18}{7}$ b) $3\frac{1}{5} = \frac{16}{5}$ $4\frac{1}{5} = \frac{21}{5}$ $5\frac{1}{5} = \frac{26}{5}$ $6\frac{1}{5} = \frac{31}{5}$ c) $5\frac{1}{2} = \frac{11}{2}$ $5\frac{1}{4} = \frac{21}{4}$ $5\frac{1}{8} = \frac{41}{8}$ $5\frac{1}{16} = \frac{81}{16}$ d) $9\frac{7}{10} = \frac{97}{10}$ $8\frac{7}{10} = \frac{87}{10}$ $7\frac{7}{10} = \frac{77}{10}$ $6\frac{7}{10} = \frac{67}{10}$ In part a), the denominator stays the same and the numerator goes up by 1 each time. In part b), the denominator stays the same and the numerator goes up by 5 each time. In part c), all the numerators end in 1 In part d), the numerators all end in 7 and go down by 10 each time.
4	23
5	No Whitney has converted the wholes by multiplying 7 by 4 but forgotten to add the 1 $4\frac{1}{7} = \frac{29}{7}$

Y5 – Autumn – Block 4 – Step 5 – Convert mixed numbers to improper fractions Answers (continued)

Question	Answer

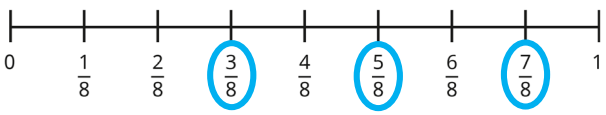
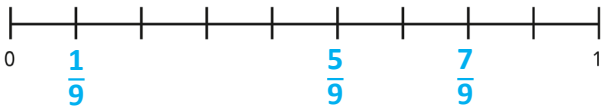
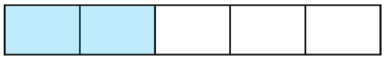
6

●	▲
1	**8**
2	**13**
4	**23**
8	**43**
16	**83**
17	88
100	803

Y5 – Autumn – Block 4 – Step 6 – Compare fractions less than 1 Answers

Question	Answer
1	a) $\frac{3}{4}$ b) $\frac{2}{7}$ c) When the denominators are the same, the **greater** the numerator, the **greater** the fraction. or When the denominators are the same, the **smaller** the numerator, the **smaller** the fraction. Children need to choose either "greater" or "smaller" for both places.
2	a) $\frac{1}{3}$ b) $\frac{3}{8}$ c) When the numerators are the same, the **greater** the denominator, the **smaller** the fraction. or When the numerators are the same, the **smaller** the denominator, the **greater** the fraction. Children need to choose one of each of "greater" and "smaller".
3	a) $>$ b) $<$ c) $>$ d) $>$
4	a) $=$ b) $<$ c) $>$
5	a) $>$ b) $>$ c) $>$ d) $<$
6	a) Esther b) Scott
7	a) $>$ b) $>$ c) $<$
8	Kim
9	C = 4, 5, 6 or 7

Y5 – Autumn – Block 4 – Step 7 – Order fractions less than 1 Answers

Question	Answer
1	a)  $\frac{3}{8}$ $\frac{5}{8}$ $\frac{7}{8}$ b)  $\frac{7}{9}$ $\frac{5}{9}$ $\frac{1}{9}$ c)  $\frac{2}{10}$ $\frac{3}{10}$ $\frac{6}{10}$ $\frac{9}{10}$ When the denominators are the same, the fractions are in the order of the numerators.
2	$\frac{2}{5}$  $\frac{2}{3}$  $\frac{2}{7}$  $\frac{2}{7}$ $\frac{2}{5}$ $\frac{2}{3}$ When the numerators are the same, the fractions are in the opposite order of the denominators.
3	a) $\frac{5}{6} = \frac{10}{12}$ $\frac{3}{4} = \frac{9}{12}$ b) $\frac{5}{6}$ $\frac{3}{4}$ $\frac{7}{12}$
4	a) **Amir's method** $\frac{2}{3} = \frac{8}{12}$ $\frac{4}{5} = \frac{8}{10}$ $\frac{8}{15}$ $\frac{2}{3}$ $\frac{4}{5}$ **Rosie's method** $\frac{2}{3} = \frac{10}{15}$ $\frac{4}{5} = \frac{12}{15}$ $\frac{8}{15}$ $\frac{2}{3}$ $\frac{4}{5}$ b) Children need to justify the method that they prefer.
5	a) $\frac{2}{5}$ $\frac{1}{2}$ $\frac{7}{10}$ $\frac{4}{5}$ b) $\frac{10}{12}$ $\frac{2}{6}$ $\frac{1}{4}$ $\frac{5}{24}$

Y5 – Autumn – Block 4 – Step 7 – Order fractions less than 1 Answers (continued)

Question	Answer
6	$\frac{4}{5}$ is greater than $\frac{1}{2}$, $\frac{3}{10}$ is smaller than $\frac{1}{2}$ and $\frac{10}{20}$ is equal to $\frac{1}{2}$
7	$\frac{10}{15}$ $\frac{11}{15}$ $\frac{12}{15}$ $\frac{13}{15}$
8	multiple possible answers, e.g. $\frac{1}{10}$ $\frac{2}{5}$ $\frac{2}{3}$ $\frac{3}{4}$ The third fraction must be $\frac{2}{3}$, but there are more possibilities for the first two fractions.

Y5 – Autumn – Block 4 – Step 8 – Compare and order fractions greater than 1 Answers

Question	Answer
1	a) $>$ b) $=$ c) $<$
2	a) $>$ b) $<$ c) $>$ d) $=$ e) $<$ f) $>$ g) $>$ h) $=$ i) $<$
3	Scott
4	Rosie has only looked at the numerator. The number of parts is the same but the size of their parts is different. $\frac{7}{4} = \frac{14}{8}$ so $\frac{7}{4} > \frac{7}{8}$ Rosie's ribbon is longer.
5	a) $\frac{8}{2}$ $\frac{8}{3}$ $\frac{16}{8}$ $\frac{4}{5}$ $\frac{8}{15}$ b) $\frac{15}{6}$ $\frac{7}{3}$ $\frac{15}{9}$ $\frac{12}{9}$ $\frac{7}{9}$ c) $\frac{3}{1}$ $\frac{14}{5}$ $\frac{27}{10}$ $\frac{42}{20}$ $\frac{17}{10}$
6	a) three possible answers: $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ b) twelve possible answers: $\frac{2}{7}$ $\frac{3}{7}$ $\frac{4}{7}$ $\frac{5}{7}$ $\frac{6}{7}$ $\frac{7}{7}$ $\frac{8}{7}$ $\frac{9}{7}$ $\frac{10}{7}$ $\frac{11}{7}$ $\frac{12}{7}$ $\frac{13}{7}$ $\frac{14}{7}$ c) five possible answers: $\frac{8}{5}$ $\frac{8}{6}$ $\frac{8}{7}$ $\frac{8}{8}$ $\frac{8}{9}$ d) any improper fraction with a value between 4 and 5, e.g. $\frac{14}{3}$ $\frac{31}{7}$ $\frac{30}{7}$
7	Dora
8	multiple possible answers, e.g. $\frac{2}{9} < \frac{1}{3}$ $\frac{3}{10} < \frac{1}{2}$ $\frac{3}{17} < \frac{1}{2}$

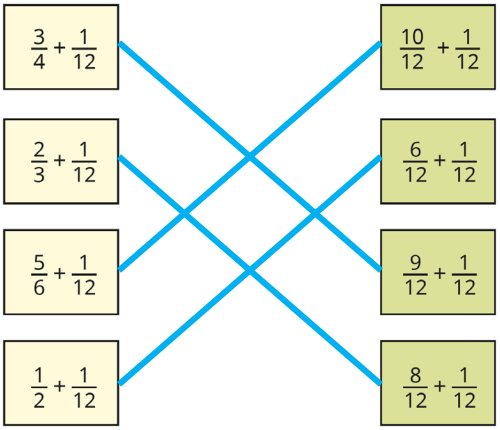
Y5 – Autumn – Block 4 – Step 9 – Add and subtract fractions with the same denominator Answers

Question	Answer
1	a) $\frac{7}{5} = 1\frac{2}{5}$ b) $\frac{9}{5} = 1\frac{4}{5}$ c) $\frac{2}{5}$ d) $\frac{6}{5} = 1\frac{1}{5}$
2	a) $\frac{6}{7}$ b) $\frac{7}{7} = 1$ c) $\frac{8}{7} = 1\frac{1}{7}$ d) $\frac{5}{7}$ e) $\frac{15}{9} = 1\frac{6}{9}$ or $1\frac{2}{3}$ f) $\frac{9}{9} = 1$ g) $\frac{8}{9}$ h) $\frac{17}{9} = 1\frac{8}{9}$ i) $\frac{17}{15} = 1\frac{2}{15}$ j) $\frac{13}{15}$
3	twelve possible answers: $\frac{1}{8} + \frac{12}{8} = \frac{13}{8}$ $\frac{2}{8} + \frac{11}{8} = \frac{13}{8}$ $\frac{3}{8} + \frac{10}{8} = \frac{13}{8}$ $\frac{4}{8} + \frac{9}{8} = \frac{13}{8}$ $\frac{5}{8} + \frac{8}{8} = \frac{13}{8}$ $\frac{6}{8} + \frac{7}{8} = \frac{13}{8}$ $\frac{7}{8} + \frac{6}{8} = \frac{13}{8}$ $\frac{8}{8} + \frac{5}{8} = \frac{13}{8}$ $\frac{9}{8} + \frac{4}{8} = \frac{13}{8}$ $\frac{10}{8} + \frac{3}{8} = \frac{13}{8}$ $\frac{11}{8} + \frac{2}{8} = \frac{13}{8}$ $\frac{12}{8} + \frac{1}{8} = \frac{13}{8}$

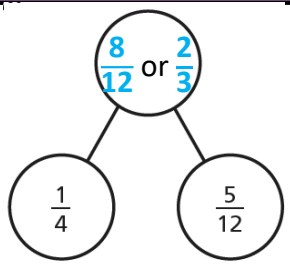
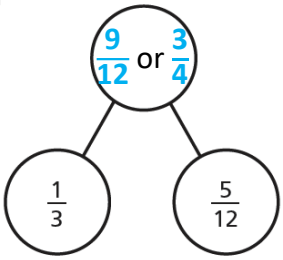
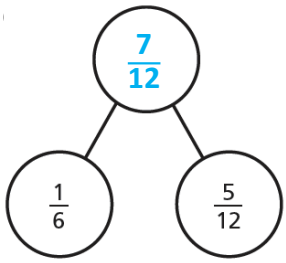
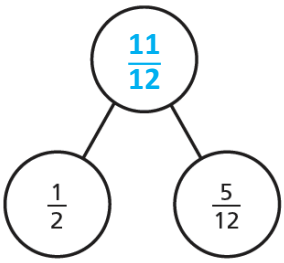
Y5 – Autumn – Block 4 – Step 9 – Add and subtract fractions with the same denominator Answers (continued)

Question	Answer
4	$1\frac{2}{8}$ litres
5	a) $\frac{3}{8}+\frac{10}{8}=\frac{13}{8}$ b) $\frac{13}{8}-\frac{6}{8}=\frac{7}{8}$ c) $\frac{13}{8}-\frac{5}{8}=1$ d) $\frac{11}{9}+\frac{11}{9}=\frac{22}{9}=2\frac{4}{9}$ e) $\frac{11}{9}+\frac{9}{9}=\frac{20}{9}=2\frac{2}{9}$ f) $\frac{22}{9}-\frac{2}{9}=\frac{20}{9}=2\frac{2}{9}$ g) $\frac{4}{7}+\frac{6}{7}+\frac{4}{7}=2$ h) $\frac{5}{7}+\frac{4}{7}+\frac{5}{7}=2$ i) $\frac{6}{7}+\frac{2}{7}+\frac{6}{7}=2$ j) $\frac{14}{7}+\frac{3}{7}+\frac{4}{7}=3$ k) $\frac{15}{7}+\frac{1}{7}+\frac{5}{7}=3$ l) $\frac{16}{7}+\frac{6}{7}+\frac{6}{7}=4$ In parts g) to k), as the given fractions increases but the answer stays the same, the value of the missing numerator decreases. If both numerators go up by 1, then the missing numerator decreases by 2
6	$\frac{9}{8}+\frac{7}{8}$ $\frac{13}{8}+\frac{3}{8}$ $\frac{1}{8}+1\frac{7}{8}$
7	Annie's rope is $1\frac{1}{4}$ m long. Dexter's rope is 2 m long.

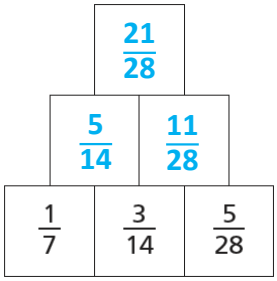
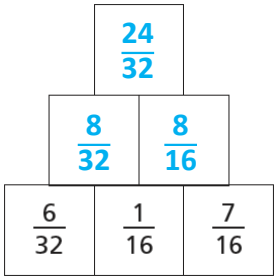
Y5 – Autumn – Block 4 – Step 10 – Add fractions within 1 Answers

Question	Answer
1	a) $\frac{4}{6} = \frac{2}{3}$ b) $\frac{3}{6} = \frac{1}{2}$ c) $\frac{5}{6}$
2	
3	$\frac{13}{18}$ litres
4	a) $\frac{1}{5} + \frac{1}{10} = \frac{3}{10}$ $\frac{2}{5} + \frac{1}{10} = \frac{5}{10}$ $\frac{3}{5} + \frac{1}{10} = \frac{7}{10}$ $\frac{4}{5} + \frac{1}{10} = \frac{9}{10}$ $\frac{1}{16} + \frac{5}{32} = \frac{7}{32}$ $\frac{1}{8} + \frac{5}{32} = \frac{9}{32}$ $\frac{1}{4} + \frac{5}{32} = \frac{13}{32}$ $\frac{1}{2} + \frac{5}{32} = \frac{21}{32}$ b) In the first set of additions, the first number goes up in fifths and the answer goes up by $\frac{2}{10}$ each time. In the second set of calculations, the first fraction is doubled each time and the numerator in the answer goes up by twice as much each time. c) $\frac{5}{5} + \frac{1}{10} = \frac{11}{10}$ $1 + \frac{5}{32} = \frac{37}{32}$

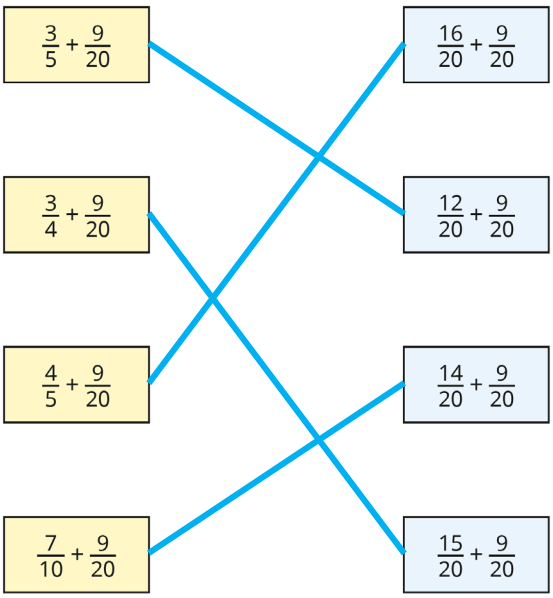
Y5 – Autumn – Block 4 – Step 10 – Add fractions within 1 Answers (continued)

Question	Answer
5	a)  b)  c)  d) 
6	$\frac{1}{8}+\frac{12}{16}=\frac{7}{8}$ $\frac{2}{8}+\frac{10}{16}=\frac{7}{8}$ $\frac{3}{8}+\frac{8}{16}=\frac{7}{8}$ $\frac{4}{8}+\frac{6}{16}=\frac{7}{8}$ $\frac{5}{8}+\frac{4}{16}=\frac{7}{8}$ $\frac{6}{8}+\frac{2}{16}=\frac{7}{8}$

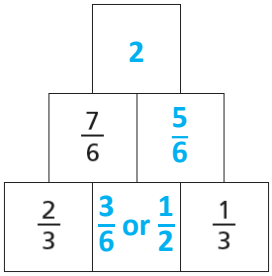
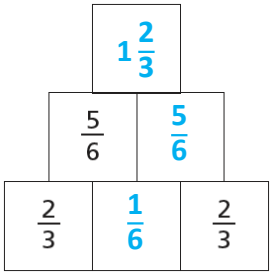
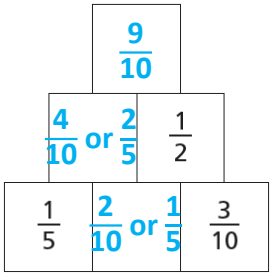
Y5 – Autumn – Block 4 – Step 10 – Add fractions within 1 Answers (continued)

Question	Answer
7	a)  b)  c) $\frac{3}{4}$

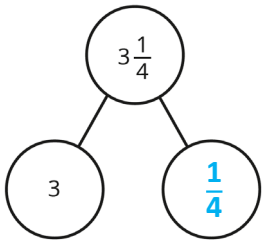
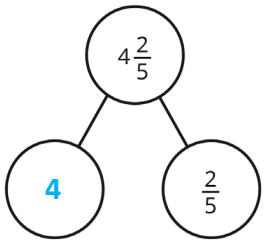
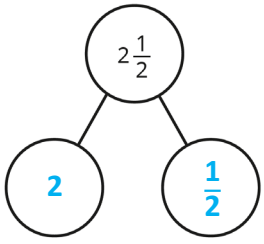
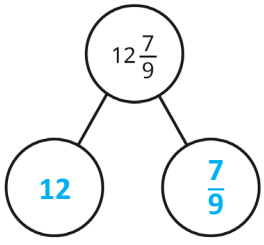
Y5 – Autumn – Block 4 – Step 11 – Add fractions with total greater than 1 Answers

Question	Answer
1	a) $\frac{12}{10} = 1\frac{2}{10}$ or $1\frac{1}{5}$ b) $\frac{10}{10} = 1$ c) $\frac{19}{12} = 1\frac{7}{12}$
2	a) $\frac{23}{20} = 1\frac{3}{20}$ b) $\frac{32}{20} = 1\frac{12}{20}$ or $1\frac{3}{5}$ c) $\frac{14}{12} = 1\frac{2}{12}$ or $1\frac{1}{6}$ d) $\frac{21}{12} = 1\frac{9}{12}$ or $1\frac{3}{4}$ e) $\frac{20}{15} = 1\frac{5}{15}$ or $1\frac{1}{3}$ f) $\frac{36}{15} = 2\frac{6}{15}$ or $2\frac{2}{5}$
3	
4	a) $1\frac{4}{12} = 1\frac{1}{3}$ kg b) $\frac{8}{12} = \frac{2}{3}$ kg

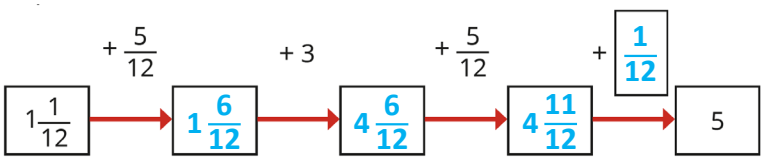
Y5 – Autumn – Block 4 – Step 11 – Add fractions with total greater than 1 Answers (continued)

Question	Answer
5	a)  b)  c) 
6	$\frac{1}{4}+\frac{2}{12}+\frac{2}{3}=\frac{13}{12}$ $\frac{1}{4}+\frac{6}{12}+\frac{1}{3}=\frac{13}{12}$ $\frac{2}{4}+\frac{3}{12}+\frac{1}{3}=\frac{13}{12}$

Y5 – Autumn – Block 4 – Step 12 – Add to a mixed number Answers

Question	Answer
1	a)  b)  c)  d) 
2	$5\frac{1}{3}$
3	a) $7\frac{1}{5}$ b) $8\frac{4}{7}$ c) $9\frac{1}{4}$ d) $10\frac{4}{9}$ e) $15\frac{7}{8}$ f) $43\frac{2}{5}$ g) $13\frac{1}{9}$ h) $28\frac{8}{11}$

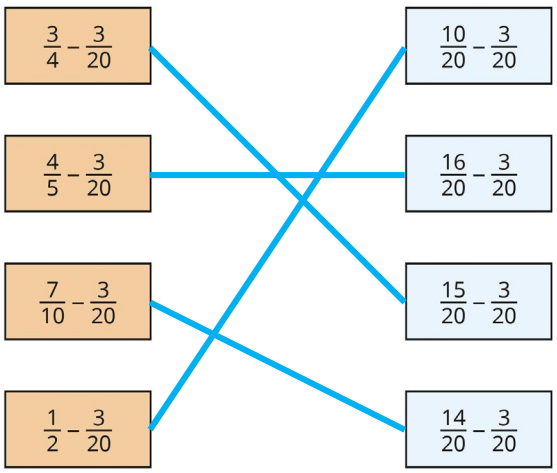
Y5 – Autumn – Block 4 – Step 12 – Add to a mixed number Answers (continued)

Question	Answer
4	a) $5\frac{7}{9}$ b) $4\frac{10}{11}$
5	They are both correct. $\frac{5}{10}$ and $\frac{1}{2}$ are equivalent fractions.
6	a) $5\frac{1}{2}$ b) $5\frac{3}{4}$ c) $3\frac{3}{4}$ d) 5
7	a) $4\frac{7}{9}$ b) $5\frac{2}{3}$
8	a) Tiny has added the numerators and the denominators of the fractions. b) $3\frac{5}{9}$
9	
10	$5\frac{2}{3}+\frac{2}{9}=2+3\frac{8}{9}$

Y5 – Autumn – Block 4 – Step 13 – Add two mixed numbers Answers

Question	Answer
1	Children need to justify the method that they prefer.
2	a) $3\frac{7}{10}$ b) $4\frac{7}{10}$ c) $4\frac{9}{10}$ d) $5\frac{15}{16}$ e) $6\frac{15}{16}$ f) $4\frac{14}{15}$
3	Ron can convert $\frac{13}{10}$ to the mixed number $1\frac{3}{10}$ and add this to 3 to give $4\frac{3}{10}$
4	a) $6\frac{1}{6}$ b) $6\frac{1}{4}$ c) $9\frac{1}{12}$ d) $10\frac{1}{15}$
5	a) $6\frac{1}{9}$ m b) $4\frac{17}{18}$ m
6	$18\frac{9}{14}$ cm
7	multiple possible answers, e.g. $1\frac{1}{5}+5\frac{8}{15}=6+\frac{11}{15}=6\frac{11}{15}$ $2\frac{2}{5}+4\frac{5}{15}=6+\frac{11}{15}=6\frac{11}{15}$ $3\frac{3}{5}+3\frac{2}{15}=6+\frac{11}{15}=6\frac{11}{15}$ Children may have the whole number parts the other way round, but these are the fractions they are likely to have used. If they used $\frac{4}{5}$, then the sum of the fractions would be greater than $\frac{11}{15}$
8	a) $8\frac{5}{12}$ b) $5\frac{3}{4}$

Y5 – Autumn – Block 4 – Step 14 – Subtract fractions Answers

Question	Answer
1	a) $\frac{2}{6} = \frac{1}{3}$ b) $\frac{3}{6} = \frac{1}{2}$ c) $\frac{1}{8}$ d) $\frac{1}{8}$
2	
3	$\frac{1}{9}$ km
4	a) $\frac{13}{16}$ $\frac{9}{16}$ $\frac{5}{16}$ $\frac{1}{16}$ b) $\frac{16}{21}$ $\frac{11}{21}$ $\frac{6}{21}$ $\frac{1}{21}$ In part a), the numerator in the first fraction decreases by 2 each time and the numerator in the answer decreases by 4 each time. In part b), the numerator in the first fraction decreases by 1 each time, the numerator in the second fraction increases by 2 each time and the numerator in the answer decreases by 5 each time.
5	a) $\frac{3}{12}$ or $\frac{1}{4}$ of an hour b) 15 minutes

Y5 – Autumn – Block 4 – Step 14 – Subtract fractions Answers (continued)

Question	Answer
6	a) $\frac{3}{4} - \frac{1}{2}$ b) $\frac{5}{6} - \frac{1}{3}$ c) $\frac{11}{12} - \frac{5}{6}$ $\frac{5}{6} - \frac{3}{4}$
7	$\frac{2}{15}$ m

Y5 – Autumn – Block 4 – Step 15 – Subtract from a mixed number Answers

Question	Answer
1	a) $1\frac{3}{8}$ b) $1\frac{1}{8}$ c) $1\frac{1}{8}$
2	a) Both methods involve counting up from $\frac{1}{3}$ to $1\frac{5}{6}$ Dexter converts to a common denominator at the start. He adds 1 and then works out how much more to reach $1\frac{5}{6}$ Whitney works out how much to 1 and then adds another $\frac{5}{6}$. She converts to a common denominator when adding the jumps. b) $1\frac{7}{16}$
3	a) $3\frac{1}{24}$ b) $3\frac{1}{16}$ c) $2\frac{1}{6}$ d) $7\frac{7}{24}$ e) $4\frac{8}{27}$ f) $6\frac{1}{6}$
4	$1\frac{1}{3}$ litres
5	four possible answers: $3\frac{\mathbf{1}}{5} - \frac{\mathbf{3}}{20} = 3\frac{1}{20}$ $3\frac{\mathbf{2}}{5} - \frac{\mathbf{7}}{20} = 3\frac{1}{20}$ $3\frac{\mathbf{3}}{5} - \frac{\mathbf{11}}{20} = 3\frac{1}{20}$ $3\frac{\mathbf{4}}{5} - \frac{\mathbf{15}}{20} = 3\frac{1}{20}$ Children may find it helps to work systematically in order to be sure they have found all the possible ways.

Y5 – Autumn – Block 4 – Step 15 – Subtract from a mixed number Answers (continued)

Question	Answer
6	

	Javelin	Shot put	Discus
Tommy	$15\frac{3}{4}$ m	$7\frac{5}{12}$ m	**$12\frac{3}{8}$ m**
Amir	$13\frac{3}{8}$ m	**8 m**	$12\frac{7}{8}$ m
Annie	**$15\frac{1}{6}$ m**	$8\frac{3}{4}$ m	$11\frac{5}{12}$ m

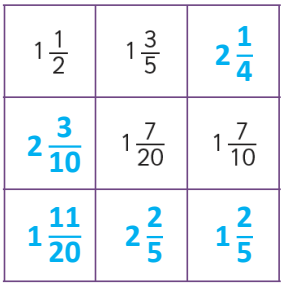
Y5 – Autumn – Block 4 – Step 16 – Subtract from a mixed number – breaking the whole Answers

Question	Answer
1	a) $1\frac{11}{12}$ b) $1\frac{9}{12} = 1\frac{3}{4}$ c) $1\frac{8}{12} = 1\frac{2}{3}$
2	a) $3\frac{1}{8}$ 3 $2\frac{7}{8}$ $2\frac{6}{8} = 2\frac{3}{4}$ b) $3\frac{1}{4} - \frac{3}{8}$ The fraction in the second number is greater than the fraction in the first number. c) $3\frac{1}{2} - \frac{9}{10}$ ✓ $7\frac{3}{4} - \frac{1}{8}$ $6\frac{11}{12} - \frac{2}{3}$ $4\frac{2}{5} - \frac{7}{15}$ ✓
3	a) $2\frac{11}{15}$ b) $2\frac{7}{16}$ c) $3\frac{7}{12}$ d) $1\frac{9}{12} = 1\frac{3}{4}$ e) $2\frac{9}{18} = 2\frac{1}{2}$ f) $2\frac{26}{27}$
4	a) $\frac{7}{10}$ kg b) $\frac{11}{20}$ kg c) $1\frac{8}{10} = 1\frac{4}{5}$ kg
5	$2\frac{5}{9}$ m

Y5 – Autumn – Block 4 – Step 16 – Subtract from a mixed number – breaking the whole Answers (continued)

Question	Answer
6	seven possible answers: $1\frac{1}{16}$ and $\frac{3}{16}$ $1\frac{3}{16}$ and $\frac{5}{16}$ $1\frac{5}{16}$ and $\frac{7}{16}$ $1\frac{7}{16}$ and $\frac{9}{16}$ $1\frac{9}{16}$ and $\frac{11}{16}$ $1\frac{11}{16}$ and $\frac{13}{16}$ $1\frac{13}{16}$ and $\frac{15}{16}$ The fraction must be $\frac{2}{16}$ more than the fraction part of the mixed number. The numerator of the fraction cannot be greater than 15

Y5 – Spring – Block 2 – Step 17 – Subtract two mixed numbers Answers

Question	Answer
1	Children need to justify why they prefer one method.
2	a) $2\frac{5}{10} = 2\frac{1}{2}$ b) $2\frac{3}{8}$ c) $11\frac{1}{4}$ d) $5\frac{5}{12}$ The answer to part d) is the same as the number that was subtracted.
3	$6\frac{2}{12} = 6\frac{1}{6}$ miles
4	a) Yes For Amir's method to work, the second fraction needs to be less than the first fraction. b) The first fraction is now larger than the second fraction, so the second fraction can be subtracted. c) $2\frac{4}{5}$
5	a) $1\frac{9}{10}$ b) $1\frac{7}{8}$ c) $2\frac{7}{14} = 2\frac{1}{2}$ d) $1\frac{10}{18} = \frac{7}{9}$
6	He has found the difference between the wholes and the difference between the fractions, but he has subtracted the first fraction from the second fraction. correct answer: $1\frac{5}{6}$
7	a) $4\frac{5}{6}$ and $4\frac{1}{2}$ b) $4\frac{5}{6}$ and $2\frac{5}{24}$
8	

Y5 – Spring – Block 2 – Step 17 – Subtract two mixed numbers Answers (continued)

Question	Answer
9	a) $1\frac{5}{10} = 1\frac{1}{2}$ miles b) $6\frac{3}{5}$ miles