The National Orthodox School Shmaisani

Mathematics

Unit 6: Fractions

The student's book

Activity page 93

1 $\frac{9}{18}$ **2** $\frac{2}{7}$ **3** $\frac{9}{15}$ **4** $\frac{14}{19}$

5 $\frac{15}{20}$ **6** $\frac{3}{5}$ **7** $\frac{16}{36}$

Exercise 6A

1 a $4\frac{4}{9}$ **b** $11\frac{3}{4}$ **c** $4\frac{1}{2}$ **d** $8\frac{1}{2}$

2 a $5\frac{3}{4}$ **b** $5\frac{11}{12}$ **c** $6\frac{19}{20}$ **d** $5\frac{17}{24}$ **e** $8\frac{3}{20}$

f $8\frac{7}{24}$ **g** $8\frac{13}{35}$ **h** $14\frac{1}{4}$ **i** $8\frac{1}{35}$ **j** $6\frac{29}{42}$

3 a $7\frac{7}{8}$ **b** $12\frac{5}{18}$ **c** $14\frac{13}{20}$ **d** $10\frac{1}{12}$

e 10

4 $7\frac{1}{12}$ litres

5 $8\frac{7}{12}$ kg

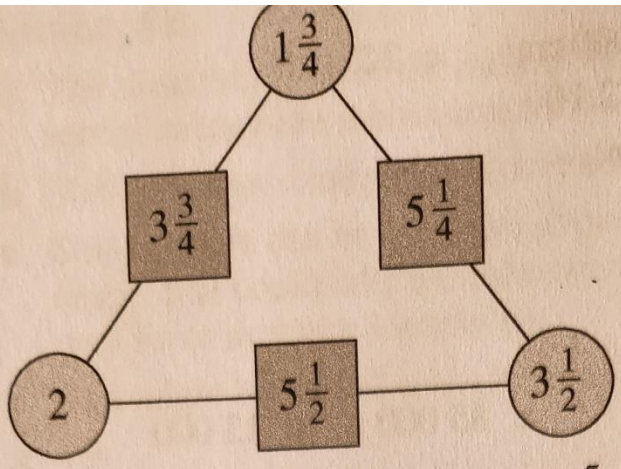
6 $6\frac{1}{6}$ hectares

7 a Adding a number bigger than 1 to a number bigger than 2 must result in an answer bigger than 3.

b She has added numerators and denominators rather than using common denominator and only adding the numerator.

c Converting to top heavy fractions

8



9 **a** $a = 4$ **b** $b = 2$ **c** $c = 5$ **d** $d = 7$

10 $\frac{5}{12}, 1, \frac{7}{12}; \frac{4}{5}, \frac{7}{10}, \frac{1}{2}; \frac{3}{4}, \frac{13}{20}, \frac{3}{5}; \frac{11}{24}, \frac{7}{8}, \frac{2}{3}$

Exercise 6B

1 **a** $1\frac{1}{3}$ **b** $1\frac{3}{4}$ **c** $1\frac{4}{5}$ **d** $2\frac{1}{3}$

e $1\frac{1}{5}$ **f** $1\frac{1}{4}$ **g** $1\frac{1}{5}$ **h** $3\frac{1}{3}$

i $2\frac{5}{8}$

2 $5\frac{1}{4}$ hours

3 $13\frac{1}{5}$ pounds

4 $23\frac{1}{7}$ million people

5 **a** $1\frac{1}{2}$ **b** $\frac{1}{4}$ **c** $\frac{3}{8}$ **d** $\frac{1}{2}$ **e** $\frac{7}{20}$ **f** $\frac{3}{7}$

g $\frac{8}{22}$ **h** $\frac{1}{2}$

6 The first numerator is 6, then the two denominators multiply to make 24 OR the first numerator can be a multiple of 6 then the two denominators must multiply together to make the same multiple of 24

7 Yes, the order you multiply the numerators does not matter the answer will still be $\frac{8}{15}$.

8 **a** $\frac{8}{9}$ **b** $\frac{7}{8}$ **c** $\frac{6}{35}$

d $\frac{12}{35}$ **e** $1\frac{39}{49}$ **f** $\frac{10}{27}$

9 **a** $\frac{3}{40}$ **b** $\frac{2}{7}$ **c** $\frac{5}{9}$ **d** $\frac{4}{45}$

10 $\frac{7}{12}$ m^2

11 $\frac{5}{9}$ km

12 $\frac{5}{8} \times \frac{2}{7}$

13 $\frac{39}{200}$ m^2

14 It is less if x and y are both the same sign, greater if one of x or y is negative. It doesn't make any difference if $x > y$ or $y > x$.

Exercise 6C

1 **a** $\frac{7}{3}$ **b** $\frac{5}{2}$ **c** 8 **d** $\frac{4}{9}$ **e** $\frac{1}{2}$

2 **a** 2 **b** $1\frac{1}{2}$ **c** 3 **d** $1\frac{1}{6}$ **e** $2\frac{3}{16}$ **f** $\frac{15}{16}$
g $1\frac{5}{22}$ **h** $\frac{3}{8}$

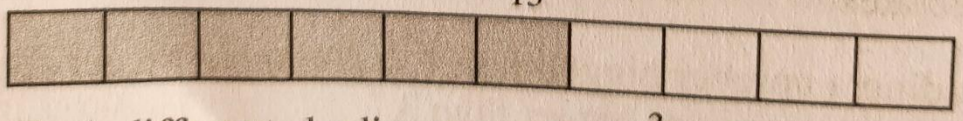
3 Any answer where the second fraction is double the value of the first, e.g. $\frac{2}{9} \div \frac{4}{9}$

4 $\frac{3}{5}$ m

5 **a** Any fraction equivalent to $\frac{3}{7}$

b Any fraction equivalent to $\frac{8}{15}$

6 **a**



b Each different shading represents $\frac{3}{15}$ of the shape and there are 6 different shades in the total area of $\frac{6}{5}$

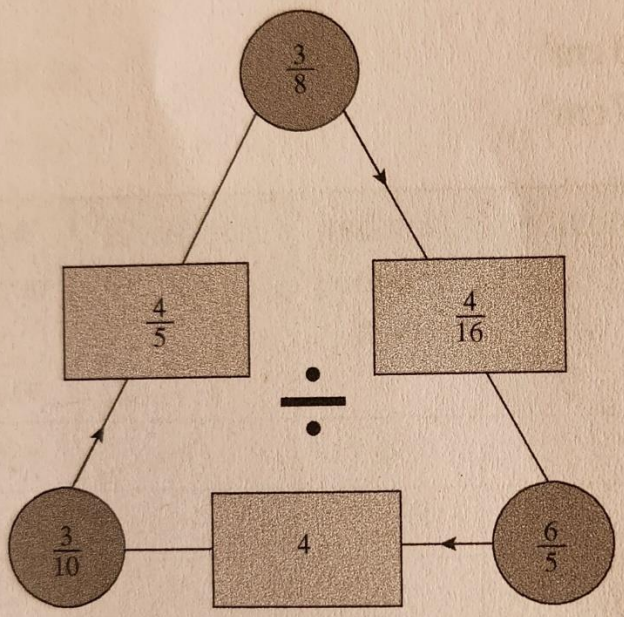
Answers

7 Chen's method works because $\frac{4}{10} \div \frac{7}{10} = \frac{4}{10} \times \frac{10}{7}$ the tens cancel giving $\frac{4}{7}$. Chen's method is easier when the denominators are already equal or when the denominator of one fraction is a multiple of the denominator of the other fraction.

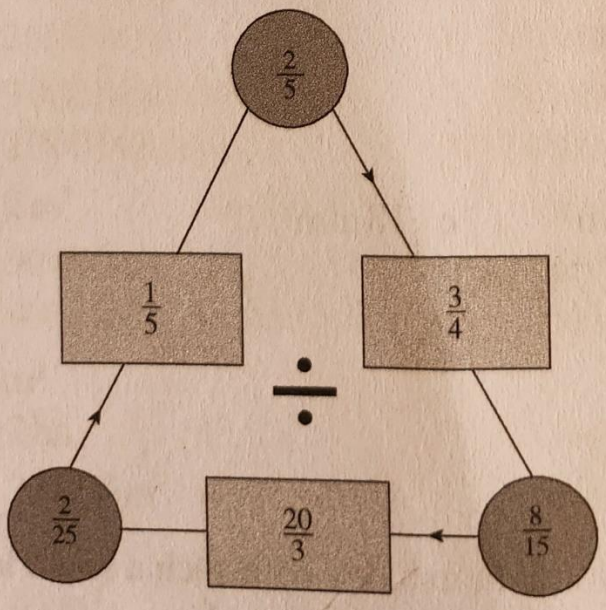
8 **a** any fraction equivalent to $\frac{7}{12}$

b 5 and 11 or the same multiple of 5 and 11

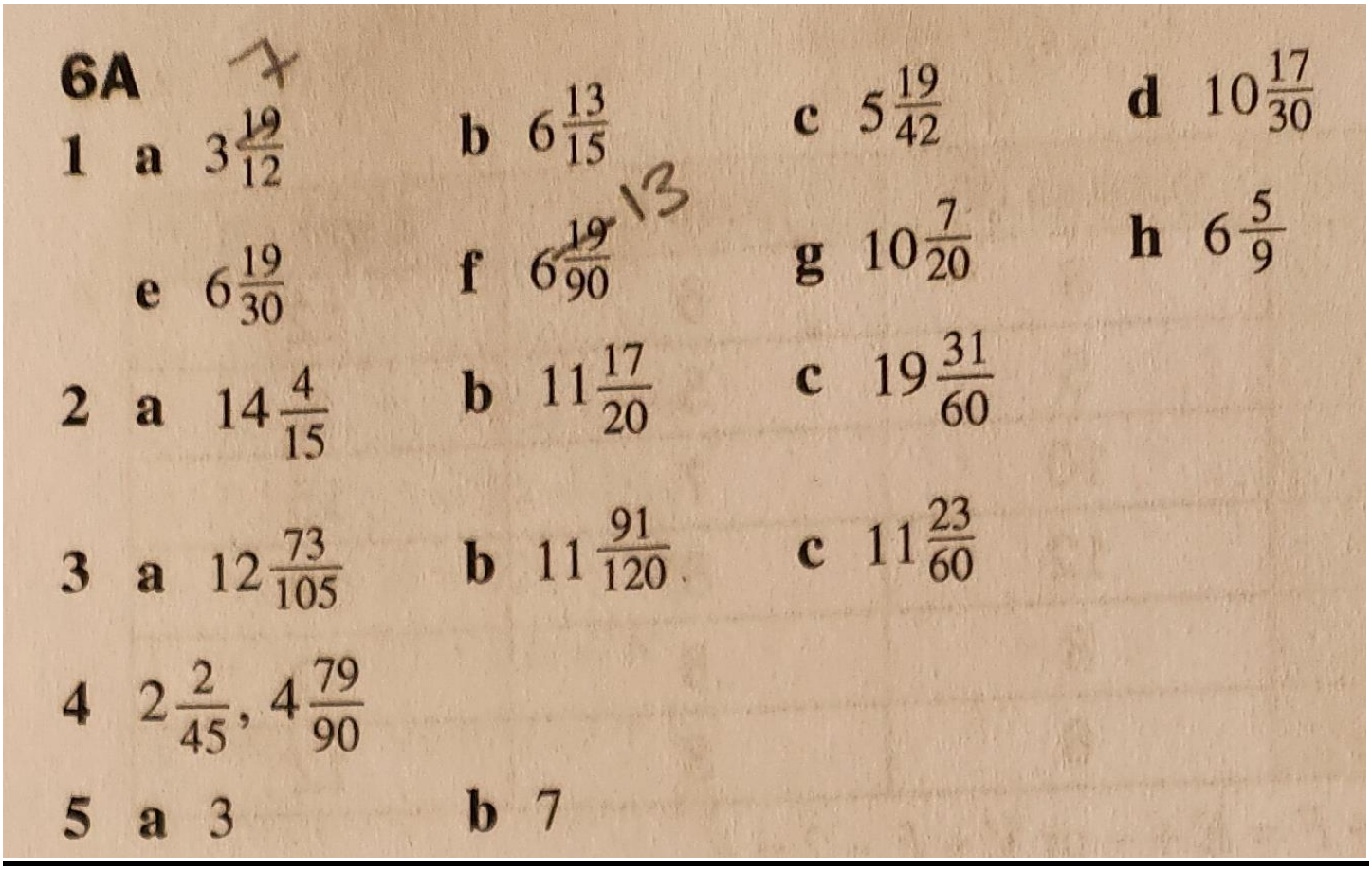
9 **a**



b



The homework book answers.



6A

1 **a** $3\frac{19}{12}$ **b** $6\frac{13}{15}$ **c** $5\frac{19}{42}$ **d** $10\frac{17}{30}$

e $6\frac{19}{30}$ **f** $6\frac{19}{90}$ **g** $10\frac{7}{20}$ **h** $6\frac{5}{9}$

2 **a** $14\frac{4}{15}$ **b** $11\frac{17}{20}$ **c** $19\frac{31}{60}$

3 **a** $12\frac{73}{105}$ **b** $11\frac{91}{120}$ **c** $11\frac{23}{60}$

4 $2\frac{2}{45}, 4\frac{79}{90}$

5 **a** 3 **b** 7

6B

1 **a** $1\frac{1}{2}$ **b** $1\frac{5}{7}$ **c** $4\frac{4}{9}$ **d** $1\frac{3}{5}$

e $5\frac{8}{11}$ **f** $5\frac{1}{3}$ **g** $2\frac{1}{2}$ **h** 12

i $4\frac{1}{2}$

2 **a** $\frac{2}{5}$ **b** $\frac{9}{22}$ **c** $\frac{2}{5}$ **d** $\frac{10}{21}$

e $\frac{6}{11}$ **f** $\frac{5}{26}$ **g** $\frac{5}{27}$ **h** $\frac{20}{33}$

i $\frac{7}{25}$

3 **a** $\frac{8}{35}$ **b** $\frac{1}{2}$ **c** $\frac{7}{12}$ **d** $\frac{3}{10}$

e $\frac{3}{20}$ **f** $\frac{3}{4}$

4 **a** $\frac{1}{9}$ **b** $\frac{12}{35}$ **c** $\frac{32}{63}$ **d** $\frac{8}{25}$

e $\frac{27}{40}$ **f** $\frac{4}{11}$

5 $\frac{7}{18}$ m^2

6 $x = 3, y = 2$

6C

1 **a** $1\frac{1}{5}$ **b** $1\frac{3}{7}$ **c** $1\frac{2}{3}$

d $\frac{1}{5}$ **e** $\frac{4}{5}$ **f** $\frac{9}{13}$

2 **a** $\frac{4}{5}$ **b** $\frac{7}{8}$ **c** $\frac{3}{4}$

d $2\frac{1}{7}$ **e** $\frac{8}{9}$ **f** $\frac{27}{44}$

g $2\frac{11}{12}$ **h** $2\frac{2}{9}$ **i** $2\frac{1}{3}$

3 **a** $\frac{5}{9} \times \frac{3}{5} = \frac{1}{3}$ **b** $\frac{7}{24} \times \frac{8}{9} = \frac{7}{27}$

4 $2\frac{1}{4}$m

5 **a** $\frac{1}{6} \div \frac{2}{3} = \frac{1}{4}$ **b** $\frac{7}{10} \div \frac{3}{4} = \frac{14}{15}$ **c** $\frac{4}{5} \div \frac{2}{3} = 1\frac{1}{5}$

6 $1\frac{1}{2}, \frac{1}{2}, \frac{1}{3}$