Cake Fractions

Imagine all the shapes below are interesting cakes! How would you cut them up to give the required fraction? The number on the bottom is the number of pieces a cake is cut into and the top number of the fraction is the number of pieces you want!

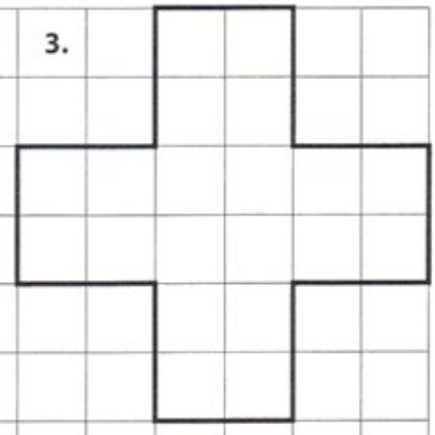
1.

Divide the cake into 4 and shade $^{3}/_{4}$

2.

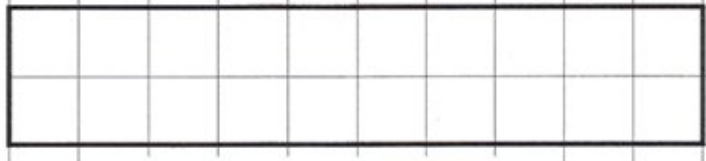
Shade in $^{4}/_{6}$ of this cake

3.



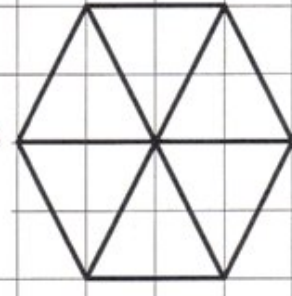
Divide the cake into 5 and shade $^{2}/_{5}$

4.



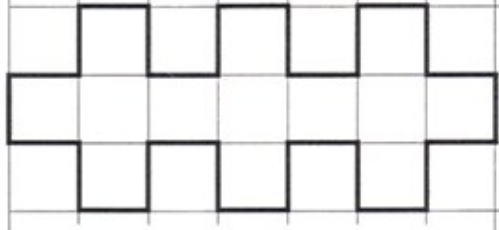
Shade in $^{11}/_{20}$ of this cake

5.



Shade in $^{5}/_{6}$ of this cake

6.

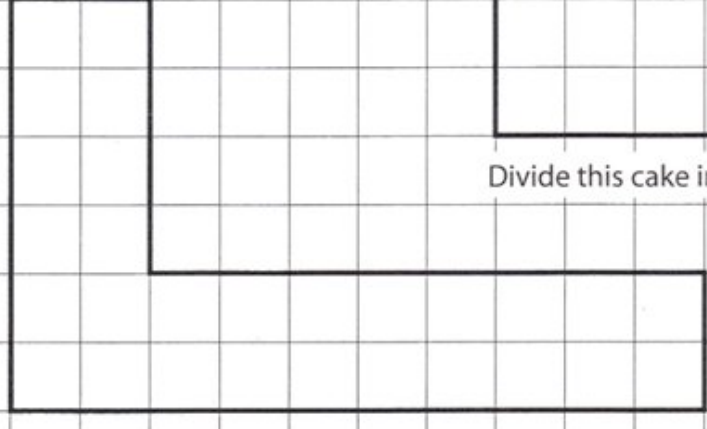


Shade in $^{8}/_{13}$ of this cake

7.

Divide this cake into 4 and shade in $^{1}/_{4}$

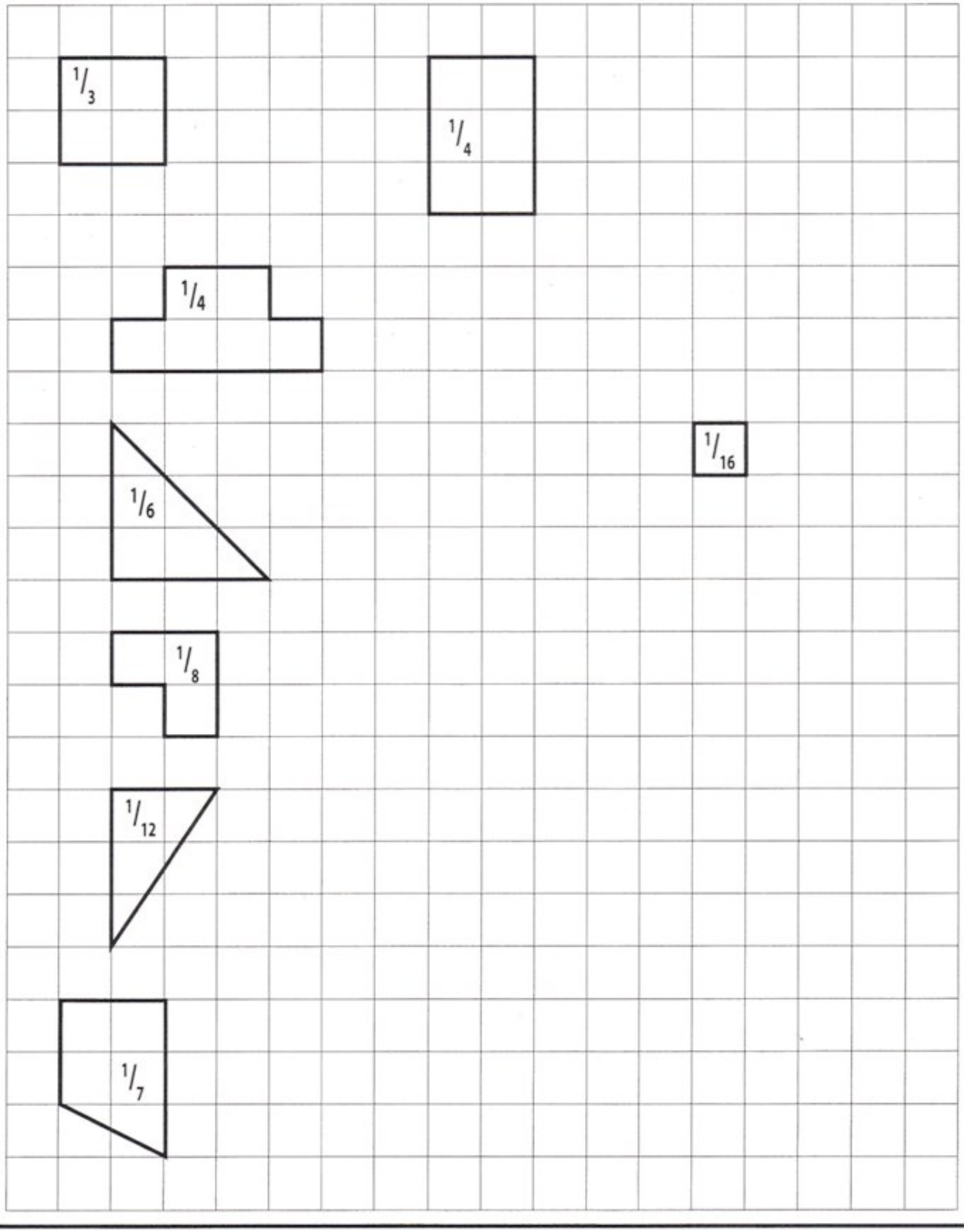
8.



Divide the cake into 7 equal pieces and then shade in $^{5}/_{7}$

Fraction Shapes

The shapes below are only a fraction of their full shape. Can you complete the shape? There may be more than one way of doing it!



Comparing Fractions

1 State whether each of the following is true (T) or false (F).

a $\frac{7}{8} < \frac{5}{8}$ **b** $\frac{4}{10} > \frac{3}{10}$ **c** $\frac{5}{11} < \frac{5}{11}$ **d** $\frac{2}{3} > \frac{3}{3}$

2 Which fraction in each of these pairs is larger?

a $\frac{2}{5}$ and $\frac{1}{3}$ **b** $\frac{5}{8}$ and $\frac{2}{3}$ **c** $\frac{3}{5}$ and $\frac{3}{4}$ **d** $\frac{7}{10}$ and $\frac{3}{4}$

3 Which fraction in each of these pairs is smaller?

a $\frac{2}{5}$ and $\frac{3}{8}$ **b** $\frac{3}{5}$ and $\frac{7}{12}$ **c** $\frac{7}{8}$ and $\frac{9}{11}$ **d** $\frac{5}{7}$ and $\frac{3}{4}$

5 Write $>$, $<$ or $=$ between the fractions in each of these pairs to make each of the following a true statement:

a $\frac{3}{5} \square \frac{7}{10}$ **b** $\frac{7}{9} \square \frac{7}{11}$ **c** $\frac{4}{7} \square \frac{3}{7}$ **d** $\frac{2}{3} \square \frac{8}{12}$

e $\frac{11}{12} \square \frac{7}{8}$ **f** $\frac{1}{5} \square \frac{7}{10}$ **g** $\frac{9}{15} \square \frac{3}{5}$ **h** $\frac{4}{7} \square \frac{2}{3}$

i $\frac{1}{2} \square \frac{4}{7}$ **j** $\frac{5}{8} \square \frac{3}{5}$ **k** $\frac{6}{7} \square \frac{3}{4}$ **l** $\frac{4}{5} \square \frac{20}{25}$

m $\frac{5}{8} \square \frac{7}{10}$ **n** $\frac{1}{6} \square \frac{2}{11}$ **o** $\frac{3}{9} \square \frac{12}{36}$ **p** $\frac{3}{8} \square \frac{1}{5}$

q $\frac{4}{11} \square \frac{1}{3}$ **r** $\frac{22}{33} \square \frac{24}{36}$ **s** $\frac{2}{9} \square \frac{2}{7}$ **t** $\frac{5}{6} \square \frac{3}{4}$

6 Arrange each of the following sets of fractions in ascending order:

a $\frac{5}{8}, \frac{7}{8}, \frac{1}{8}$ **b** $\frac{5}{6}, \frac{4}{5}, \frac{2}{3}$ **c** $\frac{4}{5}, \frac{3}{4}, \frac{5}{7}$ **d** $\frac{1}{2}, \frac{1}{3}, \frac{3}{5}, \frac{4}{7}$

7 Arrange each of the following sets of fractions in descending order.

a $\frac{5}{10}, \frac{8}{10}, \frac{2}{10}$ **b** $\frac{3}{5}, \frac{2}{3}, \frac{3}{4}$ **c** $\frac{5}{8}, \frac{2}{3}, \frac{5}{7}$ **d** $\frac{2}{3}, \frac{4}{5}, \frac{1}{2}, \frac{5}{11}$

8 a Copy this number line into your book:

b Clearly mark the fractions $\frac{1}{3}, \frac{3}{4}, \frac{1}{2}$ and $1\frac{1}{4}$ on your number line.

Exercise 1-07 Adding and Subtracting Fractions

1 Simplify each of the following:

a $\frac{18}{30}$ **b** $\frac{24}{36}$ **c** $\frac{9}{27}$ **d** $\frac{50}{60}$ **e** $\frac{48}{56}$ **f** $\frac{5}{10}$

g $\frac{15}{27}$ **h** $\frac{36}{40}$ **i** $\frac{15}{25}$ **j** $\frac{6}{8}$ **k** $\frac{9}{15}$ **l** $\frac{27}{30}$

2 Simplify each of the following:

a $\frac{3}{4} + \frac{2}{4}$ **b** $\frac{4}{5} + \frac{3}{5}$ **c** $\frac{7}{10} + \frac{9}{10}$ **e** $\frac{4}{7} + \frac{1}{2}$

f $\frac{4}{5} + \frac{2}{3}$ **h** $\frac{9}{10} + \frac{3}{5}$ **j** $\frac{19}{40} + \frac{4}{5}$

k $\frac{5}{6} + \frac{1}{3}$ **m** $\frac{2}{3} + \frac{3}{20}$ **o** $\frac{1}{2} + \frac{5}{9}$

4 a $2\frac{3}{5} + 1\frac{4}{5}$

f $6\frac{3}{4} + 4\frac{1}{10}$

5 a $4\frac{5}{10} - 2\frac{3}{10}$

f $5\frac{3}{5} - 1\frac{1}{4}$

6 a Jenny buys a roll of contact to cover her books. She uses $\frac{1}{2}$ of it to cover her project book and $\frac{1}{3}$ to cover her science book. What fraction of the roll of contact is left?

b The sum of two numbers is $4\frac{3}{4}$. If the first number is $1\frac{2}{3}$, what is the second number?

c If you buy $8\frac{3}{4}$ m of material and then use $6\frac{5}{8}$ m for curtains, how much material is left?

d Sok spent $\frac{1}{3}$ of the day working, $\frac{1}{2}$ of the day sleeping, $\frac{1}{12}$ of the day eating, and the rest of the day relaxing. What fraction of the day did he spend relaxing?

e Clare recorded two TV programs. The first program used $\frac{1}{3}$ of the video tape and the second program used $\frac{2}{5}$ of it. What fraction of the tape was not used?

Show all necessary working.

1.7 Fractions

A fraction is written in the form $\frac{a}{b}$ where a is the numerator and b is the denominator, where a and b are whole numbers.

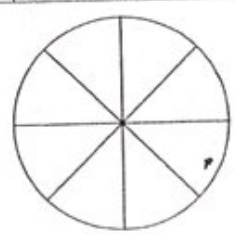
Name: _____

Class: _____ Due date: _____

Content Working out Setting out

Revision

Tick the correct answer (box).

		(A)	(B)	(C)	(D)
1	The largest fraction is	$\frac{5}{6}$	$\frac{1}{3}$	$\frac{2}{6}$	$\frac{2}{3}$
2	The two equivalent fractions are				
3	$\frac{1}{5}$ is equivalent to	$\frac{2}{3}$	$\frac{2}{10}$	$\frac{5}{1}$	$\frac{5}{15}$
4	The improper fraction is	$\frac{1}{6}$	$\frac{33}{32}$	$\frac{57}{58}$	$\frac{10}{11}$
5	The Lowest Common Multiple (LCM) of 6 and 4 is	2	12	24	48
6	$\frac{2}{5} + \frac{1}{10}$ equals	$\frac{3}{15}$	$\frac{1}{3}$	$\frac{3}{10}$	$\frac{1}{2}$
7	'It is no good', said Mum. 'A third of the apples I bought are rotten'. If Mum bought 36 apples, how many were rotten?	12	15	18	24
8	Jan has to give a fifth of her pocket money to her twin brother Jon. If Jan is given \$15.00, how much does she give to Jon?	Nothing	\$3.00	\$5.00	\$7.50
9	A quarter of the class has got the flu. If there are 24 in the class, how many do *not* have the flu?	6	18	20	4
10	Colour in $\frac{1}{4}$ of this circle.				

11 Arrange these fractions in ascending order (i.e. from smallest to largest).

$\frac{3}{7}$ $\frac{5}{21}$ $\frac{13}{21}$ $\frac{2}{3}$

12 Write $\frac{24}{72}$ in its simplest form.

13 Convert the improper fraction $\frac{45}{8}$ into a mixed number.

14 Convert the mixed number $12\frac{2}{3}$ into an improper fraction.

15 Calculate $2\frac{1}{3} + 5\frac{3}{4}$.

16 Calculate $\frac{3}{4} \times \frac{8}{9}$.

17 Calculate $\frac{25}{6} \div \frac{50}{7}$.

18 In a school of 1200 students, $\frac{5}{8}$ travel by public transport, $\frac{1}{3}$ by car, and the rest travel by bicycle or walk.

(a) How many students travel by public transport?

(b) How many students travel by car?

(c) How many students travel by bicycle or walk?

(d) What fraction of the total number of students is the group who travel by bicycle or walk?

Unit 1.7

Fractions

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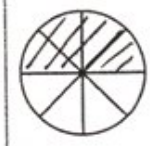
2	The two equivalent fractions are				
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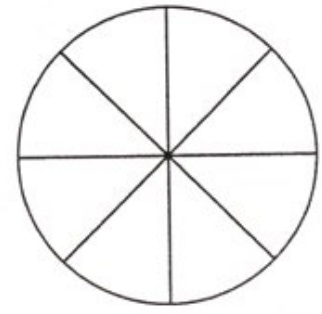
10	Colour in $\frac{1}{4}$ of this circle.				

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