Parent Guide

@twinklparents

We're excited to share this activity with you. If you are interested in finding more exciting, fun and interesting activities for you and your children, then check out these links to different areas of the Twinkl Parents website.

games

crafts

puzzles

experiments

word searches

What is this resource and how do I use it?

Focus on fractions, decimals and percentages with this themed maths booklet, aimed at children in year 5 (aged 9 - 10). It's filled with tasks that cover national curriculum objectives for fractions, decimals and percentages, perfect for practising key skills. Pick and choose which activities to try or gradually work through the whole booklet.

What skills does this practise?

- Reading and Writing
- Mathematical Skills
- Mathematical Fluency
- Perseverance

Further Activity Ideas and Suggestions

If you'd like to try some more fractions activities, you could try these Equivalent Fractions Challenge Cards. How did your child get on with these maths challenges? Were there any areas they struggled with? We have lots of resources to support their learning over in the maths category.

Parents Blog

Twinkl Kids' TV

Homework Help

twinkl Parents Hub

Year 5

Fractions, Decimals and Percentages

Maths Activity Booklet

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Contents

Answers can be found at the end of the booklet.

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We hope you find the information on our website and resources useful. As far as possible, the contents of this resource are reflective of current professional research. However, please be aware that every child is different and information can quickly become out of date. The information given here is intended for general guidance purposes only and may not apply to your specific situation.

Comparing Fractions

Use < > or = to compare these fractions.

a) $\frac{11}{12}$ ☐ $\frac{5}{6}$

b) $\frac{2}{3}$ ☐ $\frac{8}{12}$

c) $\frac{4}{5}$ ☐ $\frac{17}{20}$

d) $\frac{4}{10}$ ☐ $\frac{9}{20}$

e) $\frac{3}{4}$ ☐ $\frac{7}{12}$

f) $\frac{10}{12}$ ☐ $\frac{1}{4}$

g) $\frac{3}{10}$ ☐ $\frac{11}{20}$

h) $\frac{3}{4}$ ☐ $\frac{13}{20}$

i) $\frac{14}{20}$ ☐ $\frac{9}{10}$

j) $\frac{2}{3}$ ☐ $\frac{7}{9}$

k) $\frac{11}{15}$ ☐ $\frac{3}{5}$

l) $\frac{19}{20}$ ☐ $\frac{9}{10}$

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Ordering Fractions

Order these fractions from smallest to largest. It's a good idea to write all the fractions with a common denominator to help you order them.

a $\frac{3}{10}$ $\frac{44}{100}$ $\frac{9}{10}$ $\frac{71}{100}$ $\frac{21}{100}$

$\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$

b $\frac{6}{10}$ $\frac{68}{100}$ $\frac{7}{10}$ $\frac{73}{100}$ $\frac{72}{100}$

$\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$

c $\frac{3}{10}$ $\frac{31}{100}$ $\frac{4}{10}$ $\frac{34}{100}$ $\frac{4}{100}$

$\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$

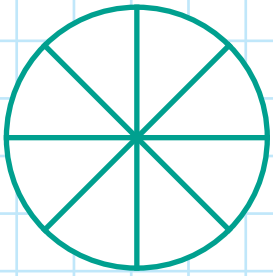
d $\frac{49}{100}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{54}{100}$ $\frac{45}{100}$

$\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$

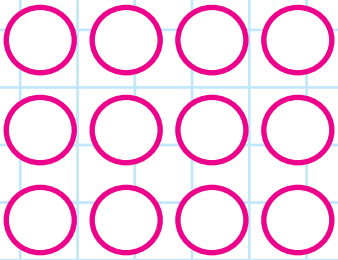
Shading Equivalent Fractions

1 Shade $\frac{1}{4}$ of each diagram. Look at how many equal parts are shaded (numerator) and the total number of equal parts (denominator) and write the equivalent fraction underneath.

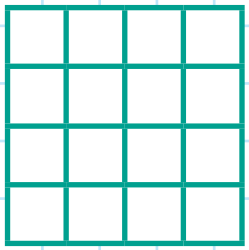
a



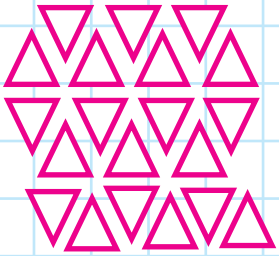
b



c



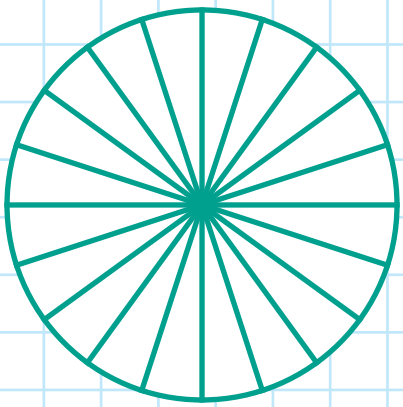
d



e The unshaded parts show $\frac{3}{4}$. Write the equivalent fractions:

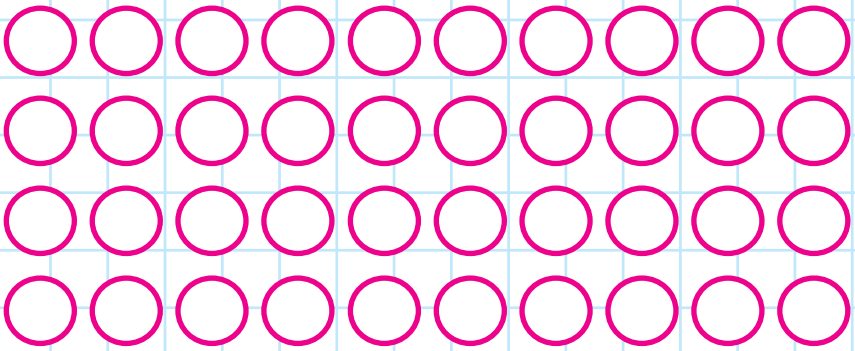
2 Shade $\frac{1}{10}$ of each diagram. Look at how many equal parts are shaded (numerator) and the total number of equal parts (denominator) and write the equivalent fraction underneath.

a

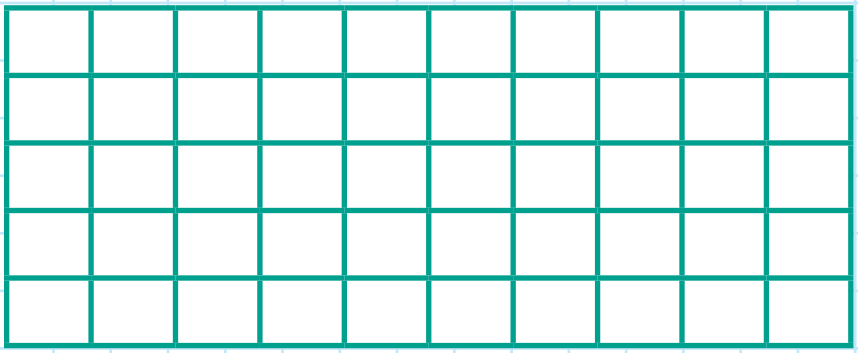


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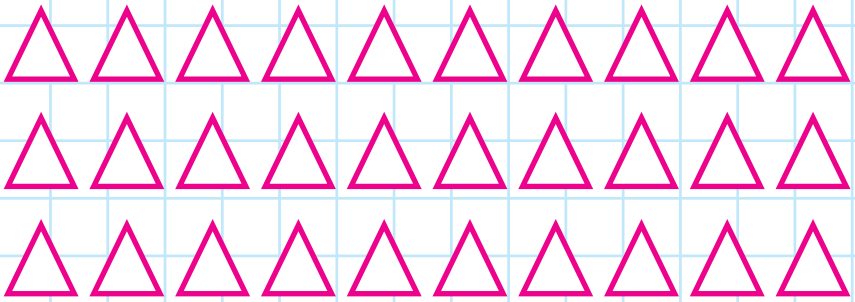
b



c



d



e

The unshaded parts show $\frac{9}{10}$. Write the equivalent fractions:

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Writing Equivalent Fractions

Complete the following fractions to make them equivalent.

a) $\frac{2}{\square} = \frac{8}{20}$

b) $\frac{15}{20} = \frac{\square}{4}$

c) $\frac{2}{\square} = \frac{8}{40}$

d) $\frac{3}{\square} = \frac{1}{3}$

e) $\frac{4}{24} = \frac{\square}{12}$

f) $\frac{7}{\square} = \frac{14}{20}$

g) $\frac{8}{40} = \frac{\square}{20}$

h) $\frac{4}{5} = \frac{16}{\square}$

i) $\frac{\square}{8} = \frac{3}{4}$

j) $\frac{3}{12} = \frac{1}{\square}$

k) $\frac{\square}{3} = \frac{14}{21}$

l) $\frac{10}{12} = \frac{5}{\square}$

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Tenths, Hundredths and Thousandths

1 Complete the table to show which digit is in the tenths, hundredths and thousandths column.

Decimal	Tenths	Hundredths	Thousandths
12.452			
87.34			
40.091			
501.2			
2.448			

2 Write the following fractions as decimals.

$\frac{289}{1000} =$ ☐

$\frac{76}{1000} =$ ☐

$\frac{8}{10} =$ ☐

$\frac{4}{10} =$ ☐

$\frac{92}{100} =$ ☐

$\frac{6}{100} =$ ☐

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Improper Fractions and Mixed Numbers

1 Circle the mixed numbers that are equivalent to the improper fraction.

$\frac{14}{3}$	$3\frac{1}{3}$	$4\frac{1}{3}$	$3\frac{2}{3}$	$2\frac{2}{3}$	$4\frac{2}{3}$
$\frac{13}{4}$	$4\frac{1}{4}$	$3\frac{3}{4}$	$3\frac{1}{4}$	$3\frac{2}{4}$	$3\frac{1}{2}$
$\frac{15}{10}$	$1\frac{1}{5}$	$1\frac{7}{10}$	$1\frac{4}{10}$	$1\frac{3}{10}$	$1\frac{5}{10}$
$\frac{21}{6}$	$3\frac{1}{3}$	$3\frac{3}{6}$	$3\frac{4}{6}$	$3\frac{2}{6}$	$1\frac{5}{6}$
$\frac{18}{5}$	$4\frac{1}{5}$	$3\frac{4}{5}$	$3\frac{2}{5}$	$3\frac{3}{5}$	$4\frac{2}{5}$

2 Write these improper fractions as mixed numbers.

a) $\frac{23}{3} =$ ☐

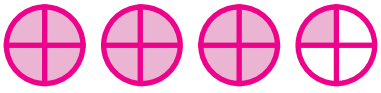
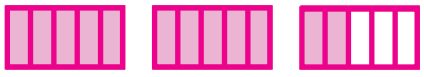
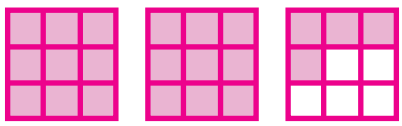
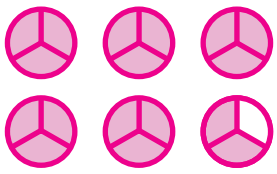
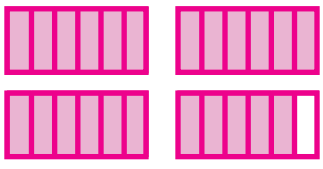
b) $\frac{36}{10} =$ ☐

c) $\frac{29}{4} =$ ☐

d) $\frac{18}{7} =$ ☐

e) $\frac{25}{9} =$ ☐

3 Write the improper fractions and mixed numbers shown by the diagrams.

Improper Fraction	Diagram	Mixed Number
		
		
		
		
		

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Adding Fractions

Solve these calculations. You'll need to make sure each fraction has the same denominator before adding them together.

a) $\frac{11}{12} + \frac{1}{3} = \frac{\square}{12} + \frac{\square}{12} = \square$

b) $\frac{5}{8} + \frac{1}{4} = \frac{\square}{8} + \frac{\square}{8} = \square$

c) $\frac{3}{5} + \frac{2}{10} = \frac{\square}{10} + \frac{\square}{10} = \square$

d) $\frac{3}{4} + \frac{1}{8} = \frac{\square}{\square} + \frac{\square}{\square} = \square$

e) $\frac{5}{6} + \frac{5}{12} = \frac{\square}{\square} + \frac{\square}{\square} = \square$

f) $\frac{9}{16} + \frac{3}{8} = \frac{\square}{\square} + \frac{\square}{\square} = \square$

g) $\frac{1}{4} + \frac{1}{2} + \frac{1}{8} = \frac{\square}{8} + \frac{\square}{8} + \frac{\square}{8} = \square$

h) $\frac{1}{6} + \frac{1}{3} + \frac{2}{12} = \frac{\square}{12} + \frac{\square}{12} + \frac{\square}{12} = \square$

i) $\frac{3}{4} + \frac{3}{8} + \frac{3}{16} = \frac{\square}{16} + \frac{\square}{16} + \frac{\square}{16} = \square$

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j) $\frac{4}{5} + \frac{9}{20} + \frac{7}{10} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \square$

k) $\frac{17}{24} + \frac{7}{12} + \frac{1}{3} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \square$

l) $\frac{2}{5} + \frac{19}{30} + \frac{7}{10} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} = \square$

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Subtracting Fractions

Solve these calculations. You'll need to make sure each fraction has the same denominator before subtracting them.

a) $\frac{9}{10} - \frac{4}{5} = \frac{\square}{10} - \frac{\square}{10} = \square$

b) $\frac{1}{2} - \frac{2}{10} = \frac{\square}{10} - \frac{\square}{10} = \square$

c) $\frac{5}{6} - \frac{15}{24} = \frac{\square}{24} - \frac{\square}{24} = \square$

d) $\frac{17}{18} - \frac{1}{3} = \frac{\square}{\square} - \frac{\square}{\square} = \square$

e) $\frac{7}{9} - \frac{2}{18} = \frac{\square}{\square} - \frac{\square}{\square} = \square$

f) $\frac{11}{16} - \frac{1}{4} = \frac{\square}{\square} - \frac{\square}{\square} = \square$

g) $1\frac{3}{4} - \frac{7}{8} = \frac{\square}{8} - \frac{\square}{8} = \square$

h) $1\frac{1}{6} - \frac{2}{3} = \frac{\square}{6} - \frac{\square}{6} = \square$

i) $1\frac{3}{10} - \frac{4}{5} = \frac{\square}{10} - \frac{\square}{10} = \square$

j) $1\frac{1}{2} - \frac{7}{8} = \frac{\square}{\square} - \frac{\square}{\square} = \square$

k) $1\frac{3}{5} - \frac{9}{10} = \frac{\square}{\square} - \frac{\square}{\square} = \square$

l) $2\frac{3}{4} - 1\frac{5}{8} = \frac{\square}{\square} - \frac{\square}{\square} = \square$

Multiplying Proper Fractions with Diagrams

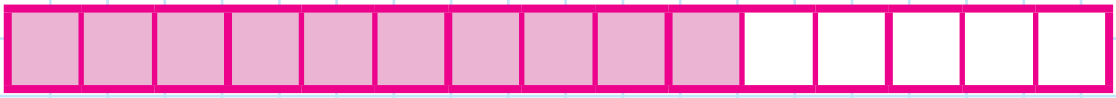
Use the diagrams to help you solve these multiplication calculations.

Example:

This is $\frac{2}{3}$.



Use this to calculate $\frac{2}{3} \times 5$.



$$\frac{2}{3} \times 5 = \frac{10}{3} = 3\frac{1}{3}$$

a This is $\frac{1}{2}$.



Use this to calculate $\frac{1}{2} \times 9$.



b This is $\frac{5}{6}$.

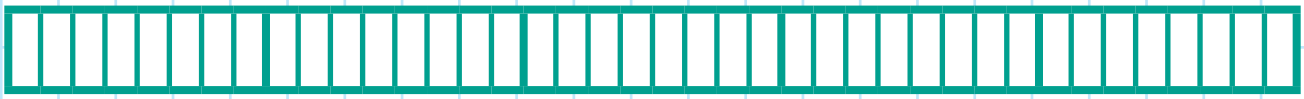


Use this to calculate $\frac{5}{6} \times 3$.



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c This is $\frac{3}{8}$.  Use this to calculate $\frac{3}{8} \times 5$.



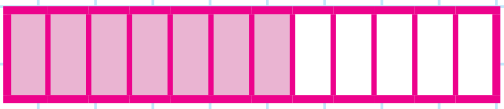
d This is $\frac{4}{5}$.  Use this to calculate $\frac{4}{5} \times 4$.

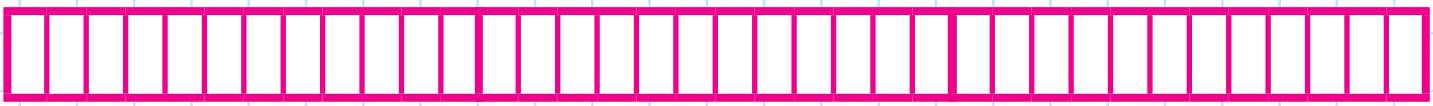


e This is $\frac{2}{7}$.  Use this to calculate $\frac{2}{7} \times 9$.





f This is $\frac{7}{12}$.  Use this to calculate $\frac{7}{12} \times 3$.



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Writing Decimal Numbers as Fractions

Write these decimal numbers as fractions.

a 0.77 □

b 0.92 □

c 0.22 □

d 0.51 □

e 0.02 □

f 0.4 □

g 0.85 □

h 0.9 □

i 0.37 □

j 0.7 □

k 0.28 □

l 0.08 □

m 0.79 □

n 0.04 □

o 0.8 □

p 0.11 □

q 0.32 □

r 0.14 □

Rounding Decimal Numbers

Round the following decimal numbers to the **nearest whole number**.

a 6.1 = ☐

b 3.9 = ☐

c 2.8 = ☐

d 7.5 = ☐

e 4.1 = ☐

f 1.2 = ☐

g 0.46 = ☐

h 0.61 = ☐

i 7.42 = ☐

j 7.47 = ☐

k 3.75 = ☐

l 8.54 = ☐

Round the following decimal numbers to **one decimal place**.

a 0.58 = ☐

b 0.46 = ☐

c 0.18 = ☐

d 0.64 = ☐

e 0.97 = ☐

f 0.35 = ☐

g 0.05 = ☐

h 0.79 = ☐

i 0.26 = ☐

j 0.43 = ☐

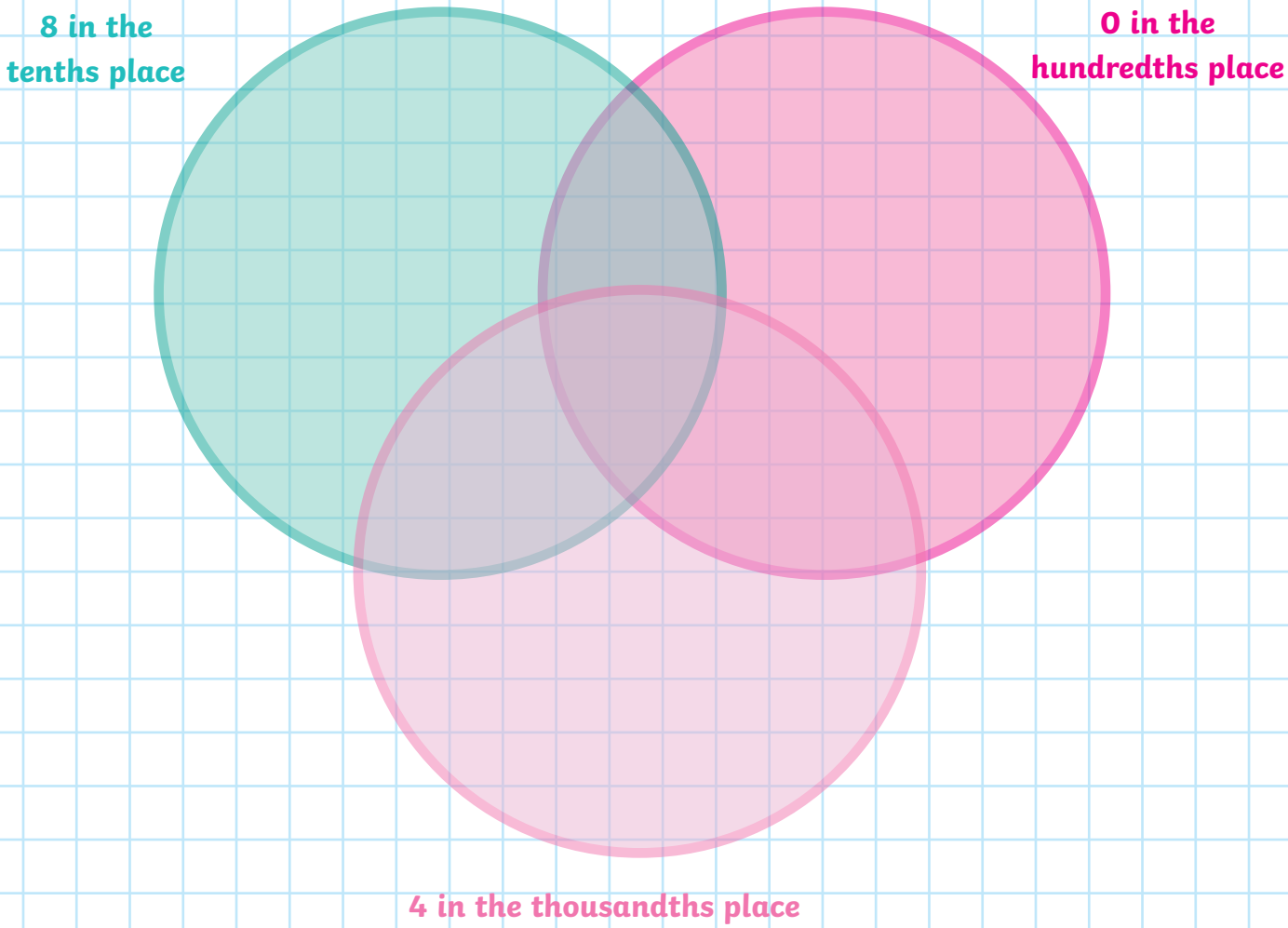
k 0.24 = ☐

l 0.74 = ☐

Identifying the Value of Decimal Digits

Write all these decimal numbers into the correct place on the Venn diagram. Cross them off as you go.

0.529	0.651	0.8	0.646	0.099	0.062	0.549	0.898
0.983	0.32	0.019	0.305	0.804	0.101	0.377	0.388
0.663	0.207	0.797	0.532	0.24	0.596	0.332	0.376
0.018	0.848	0.08	0.486	0.104	0.754	0.117	0.142
0.405	0.27	0.788	0.527	0.818	0.447	0.027	0.141
0.669	0.428	0.833	0.763	0.874	0.374	0.49	0.132



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Numbers up to Three Decimal Places

1 Write the number that is halfway between each pair of numbers.

a) 0.24 and 0.56 ☐

b) 6.2 and 9.3 ☐

c) 3.67 and 4.09 ☐

d) 0.364 and 0.402 ☐

e) 0.583 and 0.907 ☐

2 Write the missing number to make the calculation correct.

a) 0.008 + ☐ = 1

b) ☐ + 0.615 = 1

c) 0.041 + ☐ = 1

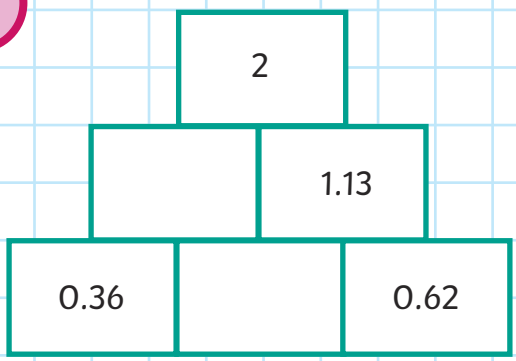
d) ☐ + 0.529 = 1

e) 0.108 + ☐ = 1

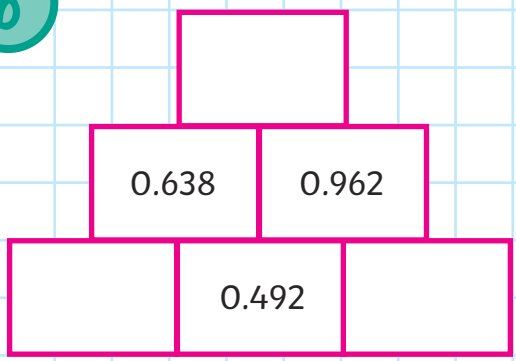
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3 These are number pyramids. The number in a box is the sum of the two numbers below it. Fill in the missing numbers.

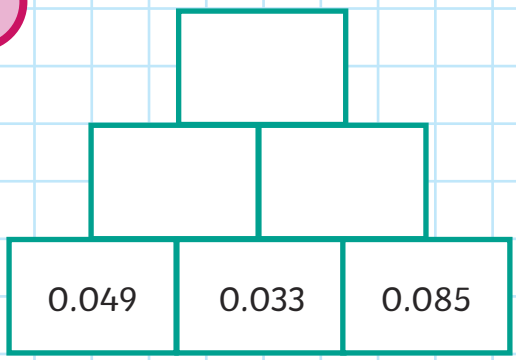
a



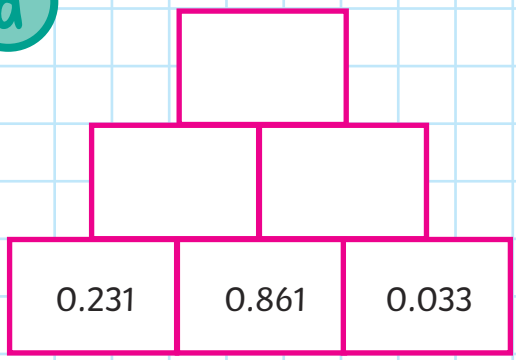
b



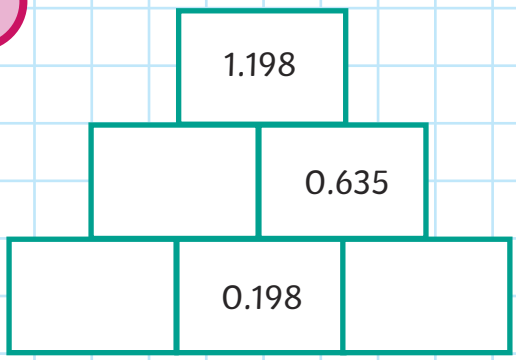
c



d



e



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Ordering Numbers with up to Three Decimal Places

Order these groups of decimal numbers from smallest to largest.

a 0.23 0.2 0.97 0.51 0.98

b 0.27 0.96 0.22 0.06 0.46

c 0.64 0.7 0.25 0.05 0.76

d 0.81 0.2 0.87 0.02 0.85

e 0.3 0.33 0.03 0.13 0.31

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f

0.71 0.17 0.7 0.77 0.87

g

0.006 0.004 0.001 0.007

h

0.009 0.004 0.002 0.005

i

0.012 0.056 0.076 0.091

j

0.01 0.011 0.019 0.013

k

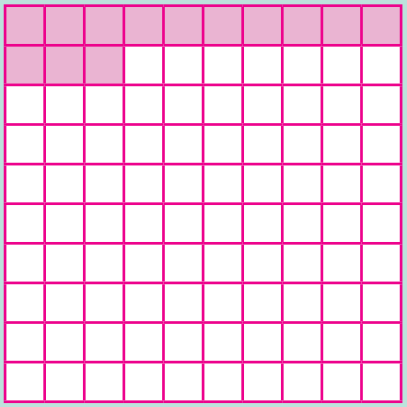
0.106 0.198 0.123 0.187

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Visual Representations of Fractions, Decimals and Percentages

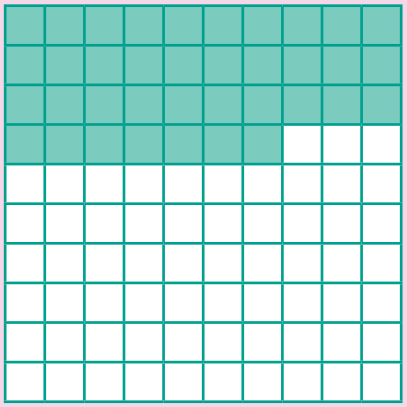
Write the percentage, fraction and decimal represented by each diagram. Look at the shaded area.

a



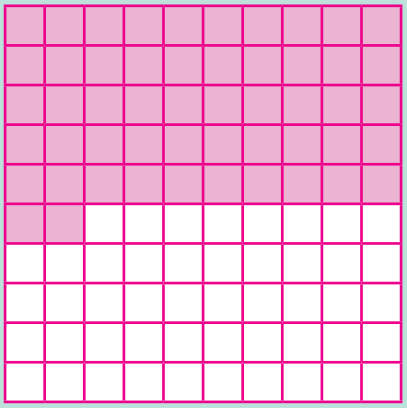
% ——

b



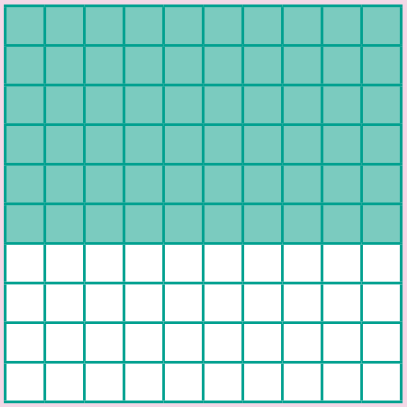
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c



% ——

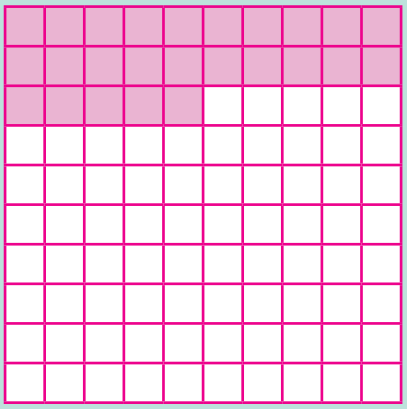
d



% ——

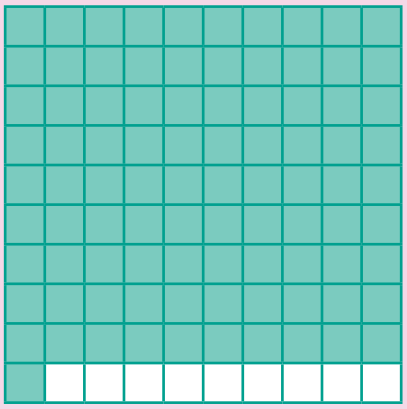
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e



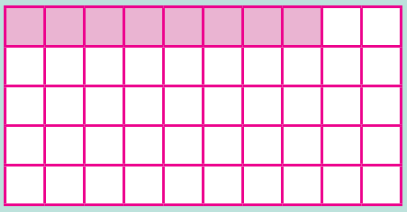
% —

f



% —

g



% —

h



% —

i



% —

j



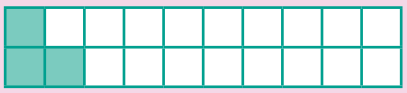
% —

k



% —

l



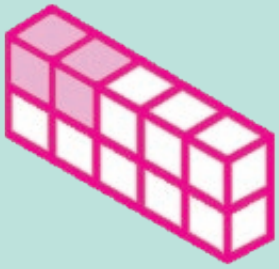
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Equivalent Fractions, Decimals and Percentages

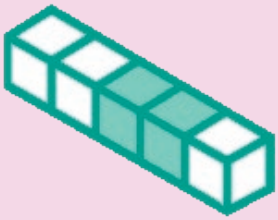
1 For each model, write the fraction and percentage of the cubes that are shaded.

a



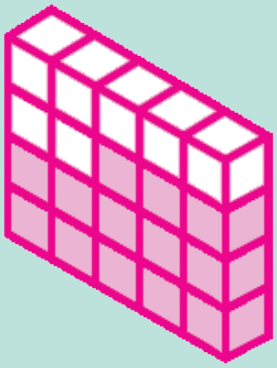
% ——

b



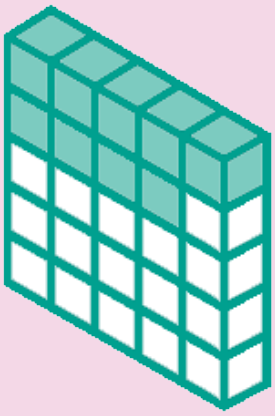
% ——

c



% ——

d



% ——

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2 Calculate the values of the following, then order them from smallest to largest.

a

$\frac{4}{5}$ of 45 ☐ 75% of 32 ☐ $\frac{1}{2}$ of 52 ☐

smallest ☐ ☐ ☐ largest

b

$\frac{1}{25}$ of 75 ☐ $\frac{2}{5}$ of 15 ☐ 40% of 10 ☐

smallest ☐ ☐ ☐ largest

c

50% of 48 ☐ $\frac{1}{5}$ of 125 ☐ 30% of 70 ☐

smallest ☐ ☐ ☐ largest

d

36% of 125 ☐ $\frac{2}{5}$ of 105 ☐ $\frac{3}{4}$ of 64 ☐

smallest ☐ ☐ ☐ largest

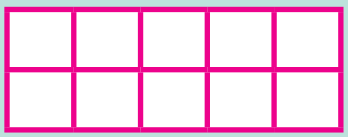
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3 Complete the table to match the fractions, decimals and percentages.

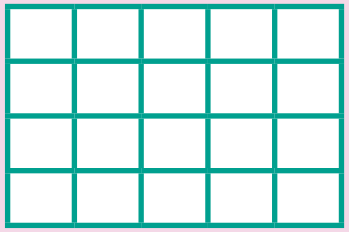
Fraction	Decimal	Percentage
		80%
	0.3	
$\frac{1}{5}$		
	0.75	
$\frac{7}{25}$		

4 Shade the following shapes so that the given fraction, decimal fraction or percentage is shaded.

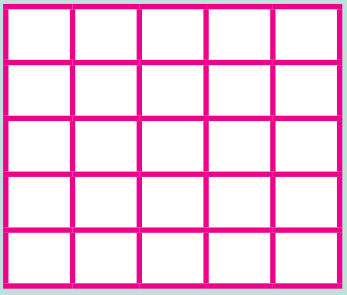
a $\frac{2}{5}$ =



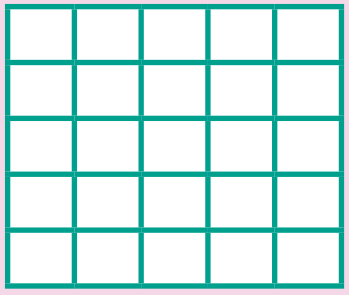
b 0.15 =



c 12% =



d 12% =



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Comparing Fractions – Answers

Use < > or = to compare these fractions.

a) $\frac{11}{12}$ > $\frac{5}{6}$

b) $\frac{2}{3}$ = $\frac{8}{12}$

c) $\frac{4}{5}$ < $\frac{17}{20}$

d) $\frac{4}{10}$ < $\frac{9}{20}$

e) $\frac{3}{4}$ > $\frac{7}{12}$

f) $\frac{10}{12}$ > $\frac{1}{4}$

g) $\frac{3}{10}$ < $\frac{11}{20}$

h) $\frac{3}{4}$ > $\frac{13}{20}$

i) $\frac{14}{20}$ < $\frac{9}{10}$

j) $\frac{2}{3}$ < $\frac{7}{9}$

k) $\frac{11}{15}$ > $\frac{3}{5}$

l) $\frac{19}{20}$ > $\frac{9}{10}$

Ordering Fractions – Answers

a $\frac{3}{10}$ $\frac{44}{100}$ $\frac{9}{10}$ $\frac{71}{100}$ $\frac{21}{100}$

$\frac{30}{100}$ $\frac{44}{100}$ $\frac{90}{100}$ $\frac{71}{100}$ $\frac{21}{100}$

$\frac{21}{100}$ $\frac{3}{10}$ $\frac{44}{100}$ $\frac{71}{100}$ $\frac{9}{10}$

b $\frac{6}{10}$ $\frac{68}{100}$ $\frac{7}{10}$ $\frac{73}{100}$ $\frac{72}{100}$

$\frac{60}{100}$ $\frac{68}{100}$ $\frac{70}{100}$ $\frac{73}{100}$ $\frac{72}{100}$

$\frac{6}{10}$ $\frac{68}{100}$ $\frac{7}{10}$ $\frac{72}{100}$ $\frac{73}{100}$

c $\frac{3}{10}$ $\frac{31}{100}$ $\frac{4}{10}$ $\frac{34}{100}$ $\frac{4}{100}$

$\frac{30}{100}$ $\frac{31}{100}$ $\frac{40}{100}$ $\frac{34}{100}$ $\frac{4}{100}$

$\frac{4}{100}$ $\frac{3}{10}$ $\frac{31}{100}$ $\frac{34}{100}$ $\frac{40}{100}$

d $\frac{49}{100}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{54}{100}$ $\frac{45}{100}$

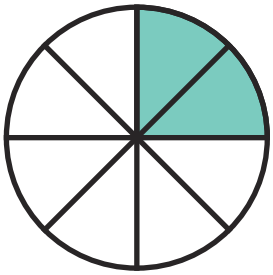
$\frac{49}{100}$ $\frac{40}{100}$ $\frac{50}{100}$ $\frac{54}{100}$ $\frac{45}{100}$

$\frac{4}{10}$ $\frac{45}{100}$ $\frac{49}{100}$ $\frac{5}{10}$ $\frac{54}{100}$

Shading Equivalent Fractions – Answers

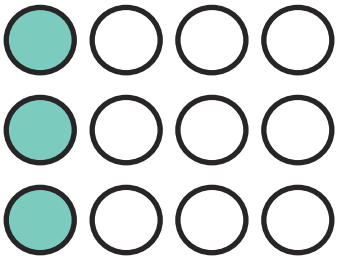
1 Shade $\frac{1}{4}$ of each diagram. Look at how many equal parts are shaded (numerator) and the total number of equal parts (denominator) and write the equivalent fraction underneath.

a



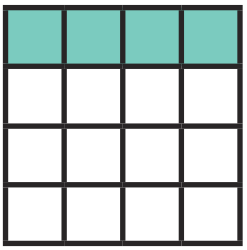
$\frac{2}{8}$

b



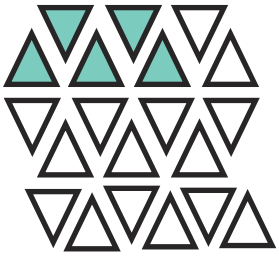
$\frac{3}{12}$

c



$\frac{4}{16}$

d



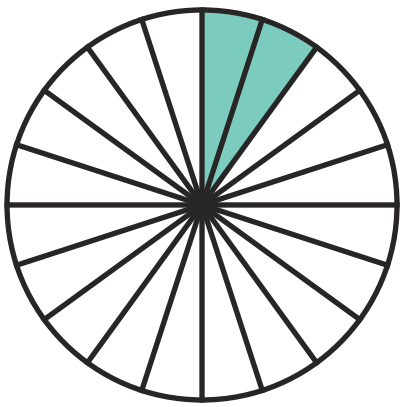
$\frac{5}{20}$

e The unshaded parts show $\frac{3}{4}$. Write the equivalent fractions:

$\frac{6}{8}$ $\frac{9}{12}$ $\frac{12}{16}$ $\frac{15}{20}$

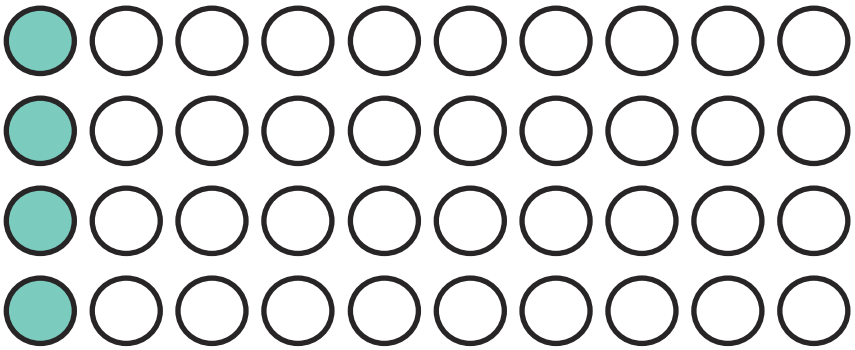
2 Shade $\frac{1}{10}$ of each diagram. Look at how many equal parts are shaded (numerator) and the total number of equal parts (denominator) and write the equivalent fraction underneath.

a



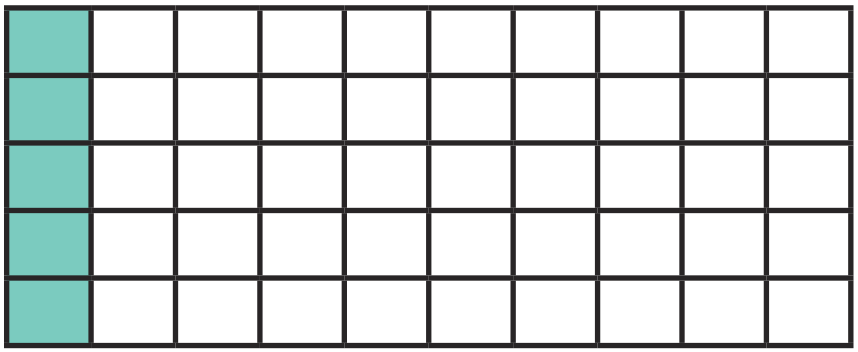
$\frac{2}{20}$

b



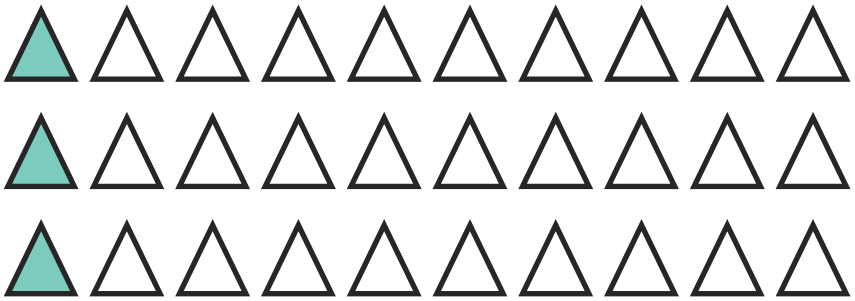
$\frac{4}{40}$

c



$\frac{5}{50}$

d



$\frac{3}{30}$

e

The unshaded parts show $\frac{9}{10}$. Write the equivalent fractions:

$\frac{18}{20}$ $\frac{36}{40}$ $\frac{45}{50}$ $\frac{27}{30}$

Writing Equivalent Fractions – Answers

a) $\frac{2}{5} = \frac{8}{20}$

b) $\frac{15}{20} = \frac{3}{4}$

c) $\frac{2}{10} = \frac{8}{40}$

d) $\frac{3}{9} = \frac{1}{3}$

e) $\frac{4}{24} = \frac{2}{12}$

f) $\frac{7}{10} = \frac{14}{20}$

g) $\frac{8}{40} = \frac{4}{20}$

h) $\frac{4}{5} = \frac{16}{20}$

i) $\frac{6}{8} = \frac{3}{4}$

j) $\frac{3}{12} = \frac{1}{4}$

k) $\frac{2}{3} = \frac{14}{21}$

l) $\frac{10}{12} = \frac{5}{6}$

Tenths, Hundredths and Thousandths – Answers

1 Complete the table to show which digit is in the tenths, hundredths and thousandths column.

Decimal	Tenths	Hundredths	Thousandths
12.452	**4**	**5**	**2**
87.34	**3**	**4**	**0**
40.091	**0**	**9**	**1**
501.2	**2**	**0**	**0**
2.448	**4**	**4**	**8**

2 Write the following fractions as decimals.

$\frac{289}{1000}$ = 0.289

$\frac{76}{1000}$ = 0.076

$\frac{8}{10}$ = 0.8

$\frac{4}{10}$ = 0.4

$\frac{92}{100}$ = 0.92

$\frac{6}{100}$ = 0.06

Improper Fractions and Mixed Numbers – Answers

1 Circle the mixed numbers that are equivalent to the improper fraction.

$\frac{14}{3}$ $3\frac{1}{3}$ $4\frac{1}{3}$ $3\frac{2}{3}$ $2\frac{2}{3}$ **$4\frac{2}{3}$**

$\frac{13}{4}$ $4\frac{1}{4}$ $3\frac{3}{4}$ **$3\frac{1}{4}$** $3\frac{2}{4}$ $3\frac{1}{2}$

$\frac{15}{10}$ $1\frac{1}{5}$ $1\frac{7}{10}$ $1\frac{4}{10}$ $1\frac{3}{10}$ **$1\frac{5}{10}$**

$\frac{21}{6}$ $3\frac{1}{3}$ **$3\frac{3}{6}$** $3\frac{4}{6}$ $3\frac{2}{6}$ $1\frac{5}{6}$

$\frac{18}{5}$ $4\frac{1}{5}$ $3\frac{4}{5}$ $3\frac{2}{5}$ **$3\frac{3}{5}$** $4\frac{2}{5}$

2 Write these improper fractions as mixed numbers.

a) $\frac{23}{3} = 7\frac{2}{3}$

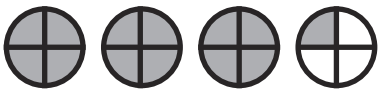
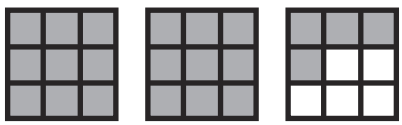
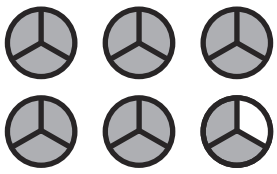
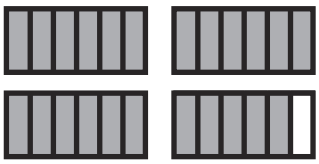
b) $\frac{36}{10} = 3\frac{6}{10}$

c) $\frac{29}{4} = 7\frac{1}{4}$

d) $\frac{18}{7} = 2\frac{4}{7}$

e) $\frac{25}{9} = 2\frac{7}{9}$

3 Write the improper fractions and mixed numbers shown by the diagrams.

Improper Fraction	Diagram	Mixed Number
$\frac{13}{4}$		$3\frac{1}{4}$
$\frac{12}{5}$		$2\frac{2}{5}$
$\frac{22}{9}$		$2\frac{4}{9}$
$\frac{17}{3}$		$5\frac{2}{3}$
$\frac{23}{6}$		$3\frac{5}{6}$

Adding Fractions – Answers

a $\frac{11}{12} + \frac{1}{3} = \frac{11}{12} + \frac{4}{12} = \frac{15}{12}$ or $1\frac{3}{12}$

b $\frac{5}{8} + \frac{1}{4} = \frac{5}{8} + \frac{2}{8} = \frac{7}{8}$

c $\frac{3}{5} + \frac{2}{10} = \frac{6}{10} + \frac{2}{10} = \frac{8}{10}$ or $\frac{4}{5}$

d $\frac{3}{4} + \frac{1}{8} = \frac{6}{8} + \frac{1}{8} = \frac{7}{8}$

e $\frac{5}{6} + \frac{5}{12} = \frac{10}{12} + \frac{5}{12} = \frac{15}{12}$ or $1\frac{3}{12}$

f $\frac{9}{16} + \frac{3}{8} = \frac{9}{16} + \frac{6}{16} = \frac{15}{16}$

g $\frac{1}{4} + \frac{1}{2} + \frac{1}{8} = \frac{2}{8} + \frac{4}{8} + \frac{1}{8} = \frac{7}{8}$

h $\frac{1}{6} + \frac{1}{3} + \frac{2}{12} = \frac{2}{12} + \frac{4}{12} + \frac{2}{12} = \frac{8}{12}$ or $\frac{2}{3}$

i $\frac{3}{4} + \frac{3}{8} + \frac{3}{16} = \frac{12}{16} + \frac{6}{16} + \frac{3}{16} = \frac{21}{16}$ or $1\frac{5}{16}$

j $\frac{4}{5} + \frac{9}{20} + \frac{7}{10} = \frac{16}{20} + \frac{9}{20} + \frac{14}{20} = \frac{39}{20}$ or $1\frac{19}{20}$

k $\frac{17}{24} + \frac{7}{12} + \frac{1}{3} = \frac{17}{24} + \frac{14}{24} + \frac{8}{24} = \frac{39}{24}$ or $1\frac{15}{24}$ or $1\frac{5}{8}$

l $\frac{2}{5} + \frac{19}{30} + \frac{7}{10} = \frac{12}{30} + \frac{19}{30} + \frac{21}{30} = \frac{52}{30}$ or $1\frac{22}{30}$ or $1\frac{11}{15}$

Subtracting Fractions – Answers

a $\frac{9}{10} - \frac{4}{5} = \frac{9}{10} - \frac{8}{10} = \frac{1}{10}$

b $\frac{1}{2} - \frac{2}{10} = \frac{5}{10} - \frac{2}{10} = \frac{3}{10}$

c $\frac{5}{6} - \frac{15}{24} = \frac{20}{24} - \frac{15}{24} = \frac{5}{24}$

d $\frac{17}{18} - \frac{1}{3} = \frac{17}{18} - \frac{6}{18} = \frac{11}{18}$

e $\frac{7}{9} - \frac{2}{18} = \frac{14}{18} - \frac{2}{18} = \frac{12}{18}$ or $\frac{2}{3}$

f $\frac{11}{16} - \frac{1}{4} = \frac{11}{16} - \frac{4}{16} = \frac{7}{16}$

g $1\frac{3}{4} - \frac{7}{8} = \frac{14}{8} - \frac{7}{8} = \frac{7}{8}$

h $1\frac{1}{6} - \frac{2}{3} = \frac{7}{6} - \frac{4}{6} = \frac{3}{6}$ or $\frac{1}{2}$

i $1\frac{3}{10} - \frac{4}{5} = \frac{13}{10} - \frac{8}{10} = \frac{5}{10}$ or $\frac{1}{2}$

j $1\frac{1}{2} - \frac{7}{8} = \frac{12}{8} - \frac{7}{8} = \frac{5}{8}$

k $1\frac{3}{5} - \frac{9}{10} = \frac{16}{10} - \frac{9}{10} = \frac{7}{10}$

l $2\frac{3}{4} - 1\frac{5}{8} = \frac{22}{8} - \frac{13}{8} = \frac{9}{8}$ or $1\frac{1}{8}$

Multiplying Proper Fractions with Diagrams – Answers

Use the diagrams to help you solve these multiplication calculations.

Example:

This is $\frac{2}{3}$.



Use this to calculate $\frac{2}{3} \times 5$.



$\frac{2}{3} \times 5 = \frac{10}{3} = 3\frac{1}{3}$

a This is $\frac{1}{2}$.



Use this to calculate $\frac{1}{2} \times 9$.



$\frac{1}{2} \times 9 = \frac{9}{2} = 4\frac{1}{2}$

b This is $\frac{5}{6}$.



Use this to calculate $\frac{5}{6} \times 3$.



$\frac{5}{6} \times 3 = \frac{15}{6} = 2\frac{3}{6}$ or $2\frac{1}{2}$

c This is $\frac{3}{8}$.  Use this to calculate $\frac{3}{8} \times 5$.



$$\frac{3}{8} \times 5 = \frac{15}{8} = 1\frac{7}{8}$$

d This is $\frac{4}{5}$.  Use this to calculate $\frac{4}{5} \times 4$.



$$\frac{4}{5} \times 4 = \frac{16}{5} = 3\frac{1}{5}$$

e This is $\frac{2}{7}$.  Use this to calculate $\frac{2}{7} \times 9$.





$$\frac{2}{7} \times 9 = \frac{18}{7} = 2\frac{4}{7}$$

f This is $\frac{7}{12}$.  Use this to calculate $\frac{7}{12} \times 3$.



$$\frac{7}{12} \times 3 = \frac{21}{12} = 1\frac{9}{12} \text{ or } 1\frac{3}{4}$$

Writing Decimal Numbers as Fractions – Answers

a 0.77 $\frac{77}{100}$

g 0.85 $\frac{85}{100}$

m 0.79 $\frac{79}{100}$

b 0.92 $\frac{92}{100}$

h 0.9 $\frac{90}{100}$ or $\frac{9}{10}$

n 0.04 $\frac{4}{100}$

c 0.22 $\frac{22}{100}$

i 0.37 $\frac{37}{100}$

o 0.8 $\frac{80}{100}$ or $\frac{8}{10}$

d 0.51 $\frac{51}{100}$

j 0.7 $\frac{70}{100}$ or $\frac{7}{10}$

p 0.11 $\frac{11}{100}$

e 0.02 $\frac{2}{100}$

k 0.28 $\frac{28}{100}$

q 0.32 $\frac{32}{100}$

f 0.4 $\frac{40}{100}$ or $\frac{4}{10}$

l 0.08 $\frac{8}{100}$

r 0.14 $\frac{14}{100}$

Rounding Decimal Numbers – Answers

Round the following decimal numbers to the **nearest whole number**.

a) 6.1 = 6

b) 3.9 = 4

c) 2.8 = 3

d) 7.5 = 8

e) 4.1 = 4

f) 1.2 = 1

g) 0.46 = 0

h) 0.61 = 1

i) 7.42 = 7

j) 7.47 = 7

k) 3.75 = 4

l) 8.54 = 9

Round the following decimal numbers to **one decimal place**.

a) 0.58 = 0.6

b) 0.46 = 0.5

c) 0.18 = 0.2

d) 0.64 = 0.6

e) 0.97 = 1.0

f) 0.35 = 0.4

g) 0.05 = 0.1

h) 0.79 = 0.8

i) 0.26 = 0.3

j) 0.43 = 0.4

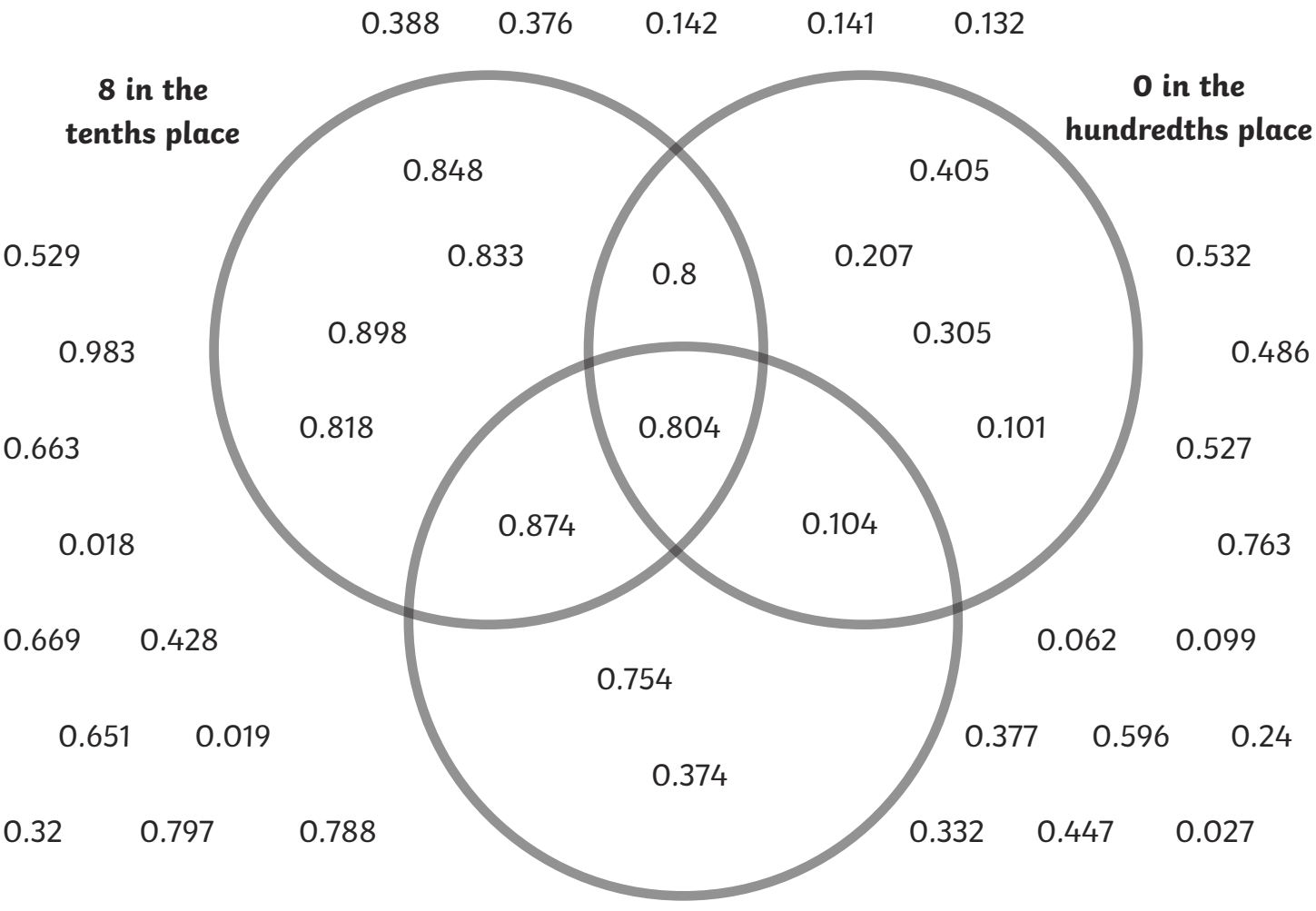
k) 0.24 = 0.2

l) 0.74 = 0.7

Identifying the Value of Decimal Digits – Answers

Write all these decimal numbers into the correct place on the Venn diagram. Cross them off as you go.

0.529	0.651	0.8	0.646	0.099	0.062	0.549	0.898
0.983	0.32	0.019	0.305	0.804	0.101	0.377	0.388
0.663	0.207	0.797	0.532	0.24	0.596	0.332	0.376
0.018	0.848	0.08	0.486	0.104	0.754	0.117	0.142
0.405	0.27	0.788	0.527	0.818	0.447	0.027	0.141
0.669	0.428	0.833	0.763	0.874	0.374	0.49	0.132



Numbers up to Three Decimal Places – Answers

1 Write the number that is halfway between each pair of numbers.

a 0.24 and 0.56

0.4

b 6.2 and 9.3

7.75

c 3.67 and 4.09

3.88

d 0.364 and 0.402

0.383

e 0.583 and 0.907

0.745

2 Write the missing number to make the calculation correct.

a 0.008 + 0.992 = 1

b 0.385 + 0.615 = 1

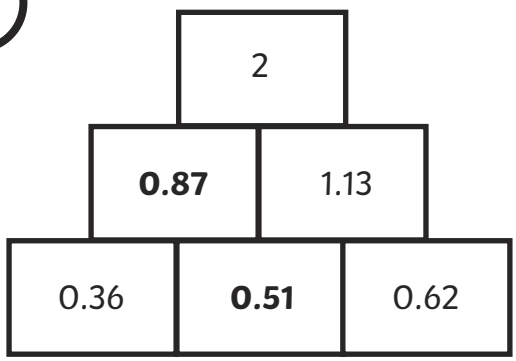
c 0.041 + 0.959 = 1

d 0.471 + 0.529 = 1

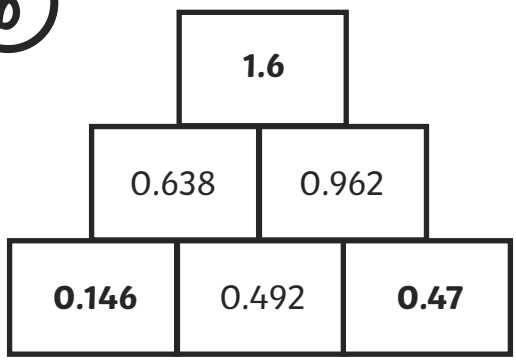
e 0.108 + 0.892 = 1

3 These are number pyramids. The number in a box is the sum of the two numbers below it. Fill in the missing numbers.

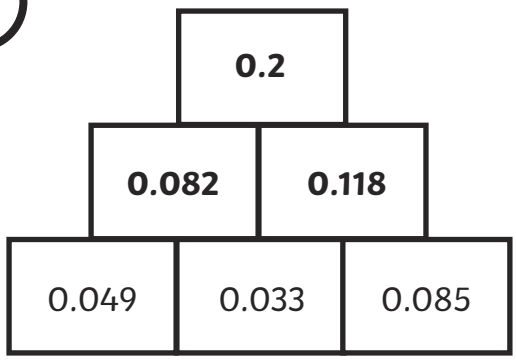
a



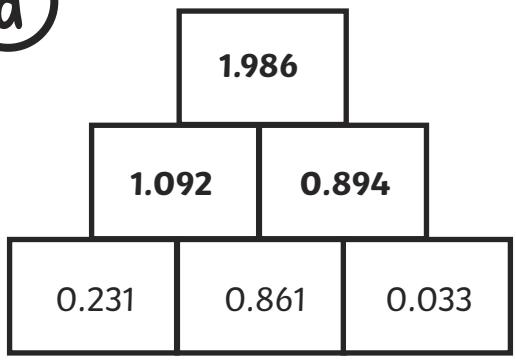
b



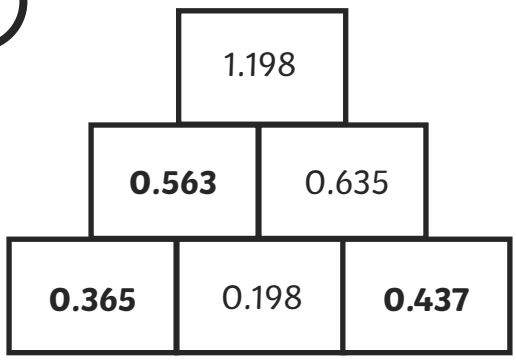
c



d



e



Ordering Numbers with up to Three Decimal Places – Answers

Order these groups of decimal numbers from smallest to largest.

a

0.23 0.2 0.97 0.51 0.98

0.2	0.23	0.51	0.97	0.98

b

0.27 0.96 0.22 0.06 0.46

0.06	0.22	0.27	0.46	0.96

c

0.64 0.7 0.25 0.05 0.76

0.05	0.25	0.64	0.7	0.76

d

0.81 0.2 0.87 0.02 0.85

0.02	0.2	0.81	0.85	0.87

e

0.3 0.33 0.03 0.13 0.31

0.03	0.13	0.3	0.31	0.33

f

0.71 0.17 0.7 0.77 0.87

0.17	0.7	0.71	0.77	0.87

g

0.006 0.004 0.001 0.007

0.001	0.004	0.006	0.007

h

0.009 0.004 0.002 0.005

0.002	0.004	0.005	0.009

i

0.012 0.056 0.076 0.091

0.012	0.056	0.076	0.091

j

0.01 0.011 0.019 0.013

0.01	0.011	0.013	0.019

k

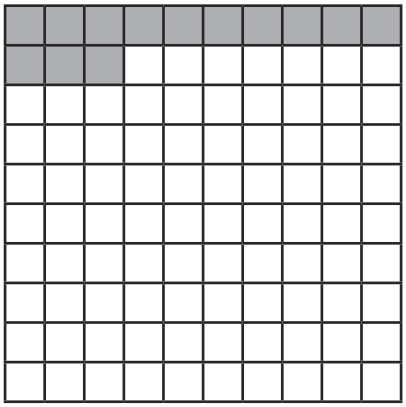
0.106 0.198 0.123 0.187

0.106	0.123	0.187	0.198

Visual Representations of Fractions, Decimals and Percentages – Answers

Write the percentage, fraction and decimal represented by each diagram. Look at the shaded area.

a

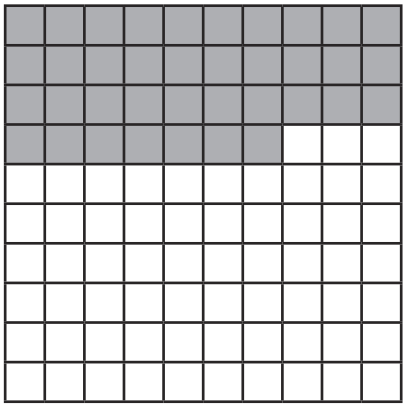


13%

$\frac{13}{100}$

0.13

b

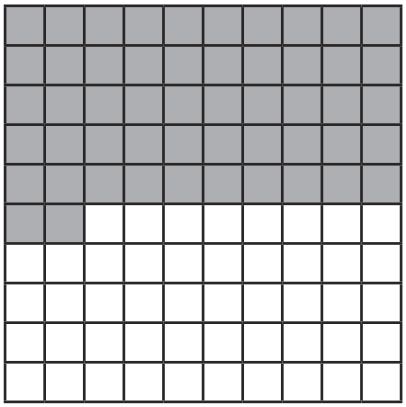


37%

$\frac{37}{100}$

0.37

c

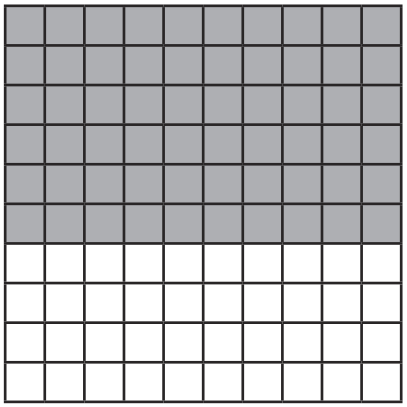


52%

$\frac{52}{100}$

0.52

d

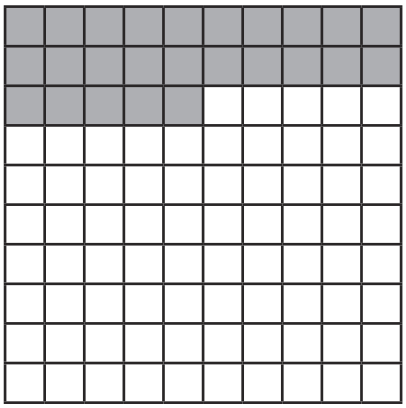


60%

$\frac{60}{100}$

0.6

e

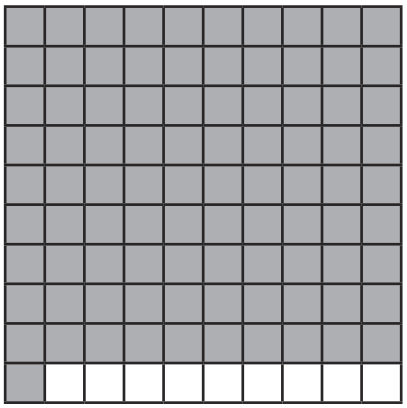


25%

$\frac{25}{100}$

0.25

f

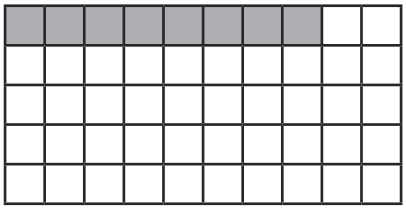


91%

$\frac{91}{100}$

0.91

g



16%

$\frac{8}{50}$

0.16

h



25%

$\frac{1}{4}$

0.25

i



70%

$\frac{7}{10}$

0.7

j



80%

$\frac{4}{5}$

0.8

k



50%

$\frac{1}{2}$

0.5

l



15%

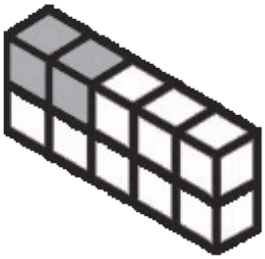
$\frac{3}{20}$

0.15

Equivalent Fractions, Decimals and Percentages – Answers

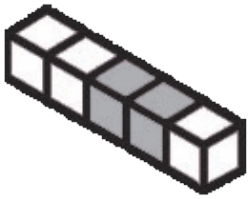
1 For each model, write the fraction and percentage of the cubes that are shaded.

a



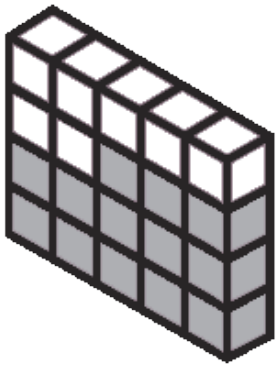
20% $\frac{2}{10}$

b



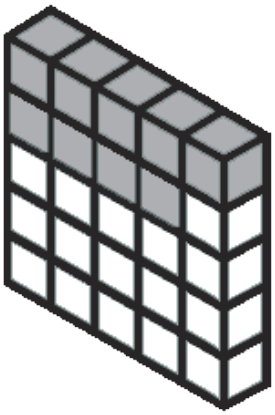
40% $\frac{2}{5}$

c



65% $\frac{13}{20}$

d



36% $\frac{9}{25}$

2 Calculate the values of the following, then order them from smallest to largest.

a

$\frac{4}{5}$ of 45 | 36 | 75% of 32 | 24 | $\frac{1}{2}$ of 52 | 26

smallest | 75% of 32 | $\frac{1}{2}$ of 52 | $\frac{4}{5}$ of 45 | largest

b

$\frac{1}{25}$ of 75 | 3 | $\frac{2}{5}$ of 15 | 6 | 40% of 10 | 4

smallest | $\frac{1}{25}$ of 75 | 40% of 10 | $\frac{2}{5}$ of 15 | largest

c

50% of 48 | 24 | $\frac{1}{5}$ of 125 | 25 | 30% of 70 | 21

smallest | 30% of 70 | 50% of 48 | $\frac{1}{5}$ of 125 | largest

d

36% of 125 | 45 | $\frac{2}{5}$ of 105 | 42 | $\frac{3}{4}$ of 64 | 48

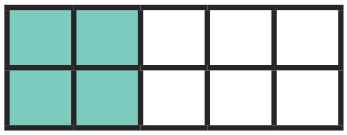
smallest | $\frac{2}{5}$ of 105 | 36% of 125 | $\frac{3}{4}$ of 64 | largest

3 Complete the table to match the fractions, decimals and percentages.

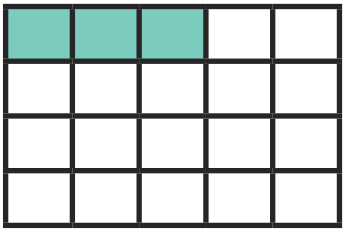
Fraction	Decimal	Percentage
$\frac{4}{5}$	0.8	80%
$\frac{3}{10}$	0.3	30%
$\frac{1}{5}$	0.2	20%
$\frac{3}{4}$	0.75	75%
$\frac{7}{25}$	0.28	28%

4 Shade the following shapes so that the given fraction, decimal fraction or percentage is shaded.

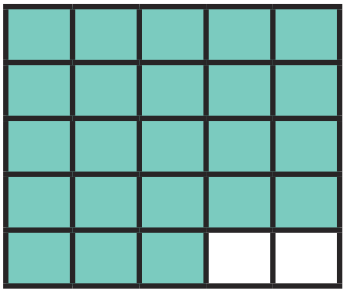
a $\frac{2}{5}$ =



b 0.15 =



c 92% =



d 12% =

