

# How to Conquer Fractions, Decimals & Percentages Vol 3 *Conversions*

Intelligent Australia Productions

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This book is dedicated to:

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Intelligent Australia Productions is committed to raising standards in Literacy and Numeracy in Australian schools.



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# Teachers Notes

## About the Series

The 'How to Conquer Fractions, Decimals & Percentages' series was written in response to a pressing need. Most teachers of upper primary school classes would agree that this area of the Maths syllabus, along with Problem Solving, presents the most difficulties for students.

The series consists of four books:

- How to Conquer Fractions, Decimals & Percentages **Vol 1 *Fundamentals***
- How to Conquer Fractions, Decimals & Percentages **Vol 2 *Method***
- How to Conquer Fractions, Decimals & Percentages **Vol 3 *Conversions***
- How to Conquer Fractions, Decimals & Percentages **Vol 4 *Problem Solving***

The books are sequential, beginning with the most basic concepts in Volume 1, progressing through the steps required to work with and manipulate fractions, decimals and percentages, and concluding with examples based on everyday life where students can apply the skills gained from the earlier volumes.

## How to Conquer Fractions, Decimals & Percentages Vol 3 *Conversions*

Converting fractions to decimals, decimals to percentages, percentages to fractions, etc, is something that we all need to do from time to time.

Building upon the skills taught in Vol 2 *Method*, this book teaches students how to carry out each type of conversion, in a simple, easy-to-understand way. There are practice examples at the top of each page with all the required working set out and clearly explained.

After working through these with the teacher students then have a whole page of similar examples to complete, where they can practise and consolidate their newly-acquired skill.

### Some of what your students will learn:

- *Any fraction may be seen as a division problem*
- *Converting percentages to decimals and vice versa is a simple matter of moving the decimal point two places left or right*
- *While many know that that  $\frac{1}{2}$  is 0.5 and  $\frac{1}{4}$  is 0.25 there's no need to remember more complex equivalences such as  $\frac{5}{8} = 0.625$  and  $\frac{3}{20} = 0.15$ . There's a foolproof way to work out the conversions*
- *There are some fractions, such as  $\frac{1}{3}$  and  $\frac{5}{9}$ , that can't be written as exact decimals*

## About the Author

Ron Shaw is a highly experienced classroom teacher.

He is the author of some 30+ educational books, many of which are used in schools in several English-speaking nations. Ron has teaching qualifications from Edith Cowan University (Perth) and is a graduate of the Australian National University (Canberra).

He is a member of the Australian College of Education, the Australian Teaching Council, the Australian Association of Mathematics Teachers and the Mathematical Association of Western Australia.

# Simple Fractions to Decimals



## Method

1. Treat the fraction as a division problem, e.g.  $\frac{1}{2} = 1 \div 2$

2. Perform the division by dividing the denominator into the numerator.

Write the numerator as a decimal number by inserting one or more zeros (keep adding zeros as you need them).

### Example 1

Change  $\frac{1}{2}$  to a decimal.

$$\begin{array}{r} 0.5 \\ 2 \overline{) 1.10} \end{array}$$

### Example 2

Change  $\frac{1}{4}$  to a decimal.

$$\begin{array}{r} 0.25 \\ 4 \overline{) 1.1020} \end{array}$$

### Example 3

Change  $\frac{3}{8}$  to a decimal.

$$\begin{array}{r} 0.375 \\ 8 \overline{) 3.30640} \end{array}$$

Try These: (Do all your working underneath the questions).

**1** Change  $\frac{3}{4}$  to a decimal.

**2** Change  $\frac{4}{5}$  to a decimal.

**3** Change  $\frac{5}{8}$  to a decimal.

**4** Change  $\frac{7}{10}$  to a decimal.

**5** Change  $\frac{9}{20}$  to a decimal.

**6** Change  $\frac{3}{5}$  to a decimal.

**7** Change  $\frac{7}{8}$  to a decimal.

**8** Change  $\frac{8}{100}$  to a decimal.

**9** Change  $\frac{11}{20}$  to a decimal.

**10** Change  $\frac{1}{5}$  to a decimal.

**11** Change  $\frac{1}{8}$  to a decimal.

**12** Change  $\frac{9}{10}$  to a decimal.

**13** Change  $\frac{7}{20}$  to a decimal.

**14** Change  $\frac{11}{40}$  to a decimal.

**15** Change  $\frac{2}{5}$  to a decimal.

**16** Change  $\frac{13}{20}$  to a decimal.

**17** Change  $\frac{3}{100}$  to a decimal.

**18** Change  $\frac{5}{80}$  to a decimal.

**19** Change  $\frac{17}{20}$  to a decimal.

**20** Change  $\frac{37}{100}$  to a decimal.

**21** Change  $\frac{7}{80}$  to a decimal.

**22** Change  $\frac{17}{1000}$  to a decimal.

**23** Change  $\frac{19}{20}$  to a decimal.

**24** Change  $\frac{49}{100}$  to a decimal.

**25** Change  $\frac{1}{1000}$  to a decimal.

No. Correct	% Score	Signature or Comment

# Mixed Numerals to Decimals



## Method

1. Disregard the whole number part of the mixed numeral e.g.  $7\frac{1}{2} = \frac{1}{2} (+7)$

2. Treat the fraction part as a division problem, e.g.  $\frac{1}{2} = 1 \div 2$

3. Perform the division by dividing the denominator into the numerator.

Write the numerator as a decimal number by inserting one or more zeros (keep adding zeros as you need them).

4. Replace the zero that precedes the decimal point in your answer with the whole number part of the mixed numeral.

### Example 1

Change  $7\frac{1}{2}$  to a decimal.

$$7\frac{1}{2} = \frac{1}{2} (+7)$$

$$\begin{array}{r} 0.5 \\ 2 \overline{) 1.10} \end{array}$$

$$0.5 + 7 = \underline{7.5}$$

### Example 2

Change  $3\frac{3}{4}$  to a decimal.

$$3\frac{3}{4} = \frac{3}{4} (+3)$$

$$\begin{array}{r} 0.75 \\ 4 \overline{) 3.00} \end{array}$$

$$0.75 + 3 = \underline{3.75}$$

### Example 3

Change  $5\frac{7}{8}$  to a decimal.

$$5\frac{7}{8} = \frac{7}{8} (+5)$$

$$\begin{array}{r} 0.875 \\ 8 \overline{) 7.000} \end{array}$$

$$0.875 + 5 = \underline{5.875}$$

**Try These:** (write your answers underneath the questions).

**1** Convert  $2\frac{1}{2}$  to a decimal.

**2** Change  $4\frac{1}{4}$  to a decimal.

**3** Convert  $4\frac{5}{8}$  to a decimal.

**4** Change  $5\frac{7}{10}$  to a decimal.

**5** Change  $8\frac{1}{8}$  to a decimal.

**6** Change  $6\frac{4}{5}$  to a decimal.

**7** Change  $1\frac{1}{5}$  to a decimal.

**8** Convert  $11\frac{11}{20}$  to a decimal.

**9** Change  $9\frac{7}{40}$  to a decimal.

**10** Convert  $3\frac{13}{100}$  to a decimal.

**11** Change  $12\frac{7}{20}$  to a decimal.

**12** Convert  $9\frac{1}{20}$  to a decimal.

**13** Change  $10\frac{4}{5}$  to a decimal.

**14** Convert  $2\frac{5}{8}$  to a decimal.

**15** Change  $8\frac{3}{5}$  to a decimal.

**16** Convert  $5\frac{9}{100}$  to a decimal.

**17** Change  $7\frac{3}{8}$  to a decimal.

**18** Change  $14\frac{17}{20}$  to a decimal.

**19** Change  $6\frac{2}{5}$  to a decimal.

**20** Change  $5\frac{7}{8}$  to a decimal.

**21** Convert  $1\frac{3}{20}$  to a decimal.

**22** Convert  $12\frac{19}{20}$  to a decimal.

**23** Change  $2\frac{19}{100}$  to a decimal.

**24** Convert  $6\frac{1}{80}$  to a decimal.

**25** Convert  $8\frac{7}{20}$  to a decimal.

No. Correct	% Score	Signature or Comment

# Improper Fractions to Decimals



## Method

1. Convert the improper fraction to a mixed numeral e.g.  $\frac{35}{8} = 4\frac{3}{8}$
2. Disregard the whole number part of the mixed numeral e.g.  $4\frac{3}{8} = \frac{3}{8} (+4)$
3. Treat the fraction part as a division problem, e.g.  $\frac{3}{8} = 3 \div 8$
4. Perform the division by dividing the denominator into the numerator.  
Write the numerator as a decimal number by inserting one or more zeros (keep adding zeros as you need them).
5. Replace the zero that precedes the decimal point in your answer with the whole number part of the mixed numeral.

### Example 1

Change  $\frac{35}{8}$  to a decimal.

$$\frac{35}{8} = 4\frac{3}{8}$$

$$\begin{array}{r} 0.375 \\ 8 \overline{) 3.300} \\ \underline{3.300} \\ 0 \end{array}$$

$$0.375 + 4 = \underline{4.375}$$

### Example 2

Change  $\frac{103}{20}$  to a decimal.

$$\frac{103}{20} = 5\frac{3}{20}$$

$$\begin{array}{r} 0.15 \\ 20 \overline{) 3.00} \\ \underline{3.00} \\ 0 \end{array}$$

$$0.15 + 5 = \underline{5.15}$$

### Example 3

Change  $\frac{207}{100}$  to a decimal.

$$\frac{207}{100} = 2\frac{7}{100}$$

$$\begin{array}{r} 0.07 \\ 100 \overline{) 207.00} \\ \underline{200.00} \\ 7.00 \\ \underline{7.00} \\ 0 \end{array}$$

$$0.07 + 2 = \underline{2.07}$$

**Try These:** (write your answers underneath the questions).

**1** Convert  $\frac{19}{4}$  to a decimal.

**2** Change  $\frac{65}{8}$  to a decimal.

**3** Convert  $\frac{127}{20}$  to a decimal.

**4** Change  $\frac{413}{100}$  to a decimal.

**5** Change  $\frac{39}{5}$  to a decimal.

**6** Change  $\frac{2121}{1000}$  to a decimal.

**7** Change  $\frac{37}{4}$  to a decimal.

**8** Convert  $\frac{31}{8}$  to a decimal.

**9** Change  $\frac{91}{20}$  to a decimal.

**10** Convert  $\frac{87}{40}$  to a decimal.

**11** Change  $\frac{111}{100}$  to a decimal.

**12** Convert  $\frac{58}{5}$  to a decimal.

**13** Change  $\frac{4007}{1000}$  to a decimal.

**14** Convert  $\frac{49}{4}$  to a decimal.

**15** Change  $\frac{49}{8}$  to a decimal.

**16** Convert  $\frac{217}{20}$  to a decimal.

**17** Change  $\frac{181}{40}$  to a decimal.

**18** Change  $\frac{791}{100}$  to a decimal.

**19** Change  $\frac{48}{5}$  to a decimal.

**20** Change  $\frac{8126}{1000}$  to a decimal.

**21** Convert  $\frac{35}{4}$  to a decimal.

**22** Convert  $\frac{93}{8}$  to a decimal.

**23** Change  $\frac{113}{20}$  to a decimal.

**24** Convert  $\frac{143}{40}$  to a decimal.

**25** Convert  $\frac{603}{100}$  to a decimal.

No. Correct	% Score	Signature or Comment

# Simple Fractions to Percentages



## Method

1. Multiply the fraction by  $^{100}/_1$ .
2. Simplify.
3. Affix a % sign.

### Example 1

Convert  $\frac{1}{2}$  to a percentage.

$$\begin{aligned}
 &= \frac{1}{2} \times \frac{100}{1} \\
 &= \frac{100}{2} \\
 &= \frac{50}{1} \\
 &= \underline{50\%}
 \end{aligned}$$

### Example 2

Convert  $\frac{2}{5}$  to a percentage.

$$\begin{aligned}
 &= \frac{2}{5} \times \frac{100}{1} \\
 &= \frac{200}{5} \\
 &= \frac{40}{1} \\
 &= \underline{40\%}
 \end{aligned}$$

### Example 3

Convert  $\frac{3}{4}$  to a percentage.

$$\begin{aligned}
 &= \frac{3}{4} \times \frac{100}{1} \\
 &= \frac{300}{4} \\
 &= \frac{75}{1} \\
 &= \underline{75\%}
 \end{aligned}$$

**Try These:** (write your answers underneath the questions).

**1** Convert  $\frac{3}{5}$  to a percentage.      **2** Convert  $\frac{5}{8}$  to a percentage.      **3** Convert  $\frac{3}{20}$  to a percentage.

**4** Convert  $\frac{3}{8}$  to a percentage.      **5** Convert  $\frac{4}{5}$  to a percentage.      **6** Convert  $\frac{7}{20}$  to a percentage.

**7** Convert  $\frac{1}{8}$  to a percentage.      **8** Convert  $\frac{7}{8}$  to a percentage.      **9** Convert  $\frac{11}{20}$  to a percentage.

**10** Change  $\frac{17}{100}$  to a percent'.      **11** Change  $\frac{17}{20}$  to a percent'.      **12** Change  $\frac{19}{40}$  to a percent'.

**13** Change  $\frac{17}{1000}$  to a percent'.      **14** Convert  $\frac{49}{100}$  to a percent'.      **15** Change  $\frac{13}{1000}$  to a percent'.

**16** Convert  $\frac{17}{50}$  to a percent'.      **17** Change  $\frac{9}{20}$  to a percent'.      **18** Change  $\frac{1}{20}$  to a percent'.

**19** Change  $\frac{39}{40}$  to a percent'.      **20** Change  $\frac{37}{50}$  to a percent'.      **21** Convert  $\frac{3}{1000}$  to a percent'.

**22** Convert  $\frac{7}{80}$  to a percent'.      **23** Change  $\frac{19}{20}$  to a percent'.      **24** Convert  $\frac{23}{40}$  to a percent'.

**25** Convert  $\frac{3}{80}$  to a percentage.

No. Correct	% Score	Signature or Comment



# Mixed Numerals to Percentages



## Method

1. Disregard the whole number part of the mixed numeral e.g.  $7\frac{1}{2} = \frac{1}{2} (+7)$
2. Multiply the fraction part by  $\frac{100}{1}$ .
2. Simplify.
3. Add (the whole number  $\times 100$ )
4. Affix a % sign.

### Example 1

Convert  $4\frac{1}{2}$  to a percentage.

$$\begin{aligned}
 &= \cancel{1/2} \times \cancel{100}/1 \\
 &= 50/1 \\
 &= 50 \\
 &= \underline{450\%}
 \end{aligned}$$

### Example 2

Convert  $3\frac{3}{4}$  to a percentage.

$$\begin{aligned}
 &= 3/4 \times 100/1 \\
 &= \cancel{300}/\cancel{4} \\
 &= 75 \\
 &= \underline{375\%}
 \end{aligned}$$

### Example 3

Convert  $2\frac{1}{8}$  to a percentage.

$$\begin{aligned}
 &= 1/8 \times 100/1 \\
 &= 100/8 \\
 &= 12.5 \\
 &= \underline{212.5\%}
 \end{aligned}$$

**Try These:** (write your answers underneath the questions).

**1** Convert  $3\frac{4}{5}$  to a percentage. **2** Convert  $2\frac{3}{8}$  to a percentage. **3** Convert  $1\frac{9}{20}$  to a percentage.

**4** Convert  $4\frac{1}{8}$  to a percentage. **5** Convert  $1\frac{3}{5}$  to a percentage. **6** Convert  $2\frac{11}{20}$  to a percentage.

**7** Convert  $2\frac{1}{2}$  to a percentage. **8** Convert  $3\frac{5}{8}$  to a percentage. **9** Convert  $4\frac{17}{20}$  to a percentage.

**10** Change  $1\frac{3}{10}$  to a percent'. **11** Change  $2\frac{3}{4}$  to a percent'. **12** Change  $1\frac{3}{5}$  to a percent'.

**13** Change  $6\frac{1}{2}$  to a percent'. **14** Convert  $1\frac{3}{8}$  to a percent'. **15** Change  $5\frac{3}{20}$  to a percent'.

**16** Convert  $7\frac{9}{10}$  to a percent'. **17** Change  $6\frac{1}{4}$  to a percent'. **18** Change  $2\frac{3}{5}$  to a percent'.

**19** Change  $3\frac{1}{2}$  to a percent'. **20** Change  $3\frac{3}{8}$  to a percent'. **21** Convert  $4\frac{3}{20}$  to a percent'.

**22** Convert  $4\frac{9}{10}$  to a percent'. **23** Change  $5\frac{1}{4}$  to a percent'. **24** Convert  $1\frac{4}{5}$  to a percent'.

**25** Convert  $8\frac{7}{100}$  to a percentage.

No. Correct	% Score	Signature or Comment

# Improper Fractions to Percentages



## Method

1. Multiply by  $\frac{100}{1}$ .
3. Simplify.
4. Affix a % sign.

### Example 1

Convert  $\frac{11}{2}$  to a percentage.

$$\begin{aligned} &= \frac{11}{2} \times \frac{100}{1} \\ &= \frac{1100}{2} \\ &= \frac{550}{1} \\ &= \underline{550\%} \end{aligned}$$

### Example 1

Convert  $\frac{13}{4}$  to a percentage.

$$\begin{aligned} &= \frac{13}{4} \times \frac{100}{1} \\ &= \frac{1300}{4} \\ &= \frac{325}{1} \\ &= \underline{325\%} \end{aligned}$$

### Example 1

Convert  $\frac{13}{8}$  to a percentage.

$$\begin{aligned} &= \frac{13}{8} \times \frac{100}{1} \\ &= \frac{1300}{8} \\ &= \frac{325}{2} \\ &= \underline{162.5\%} \end{aligned}$$

**Try These:** (write your answers underneath the questions).

- 1** Convert  $\frac{9}{4}$  to a percentage.
- 2** Convert  $\frac{11}{8}$  to a percentage.
- 3** Convert  $\frac{9}{2}$  to a percentage.
- 4** Convert  $\frac{11}{10}$  to a percentage.
- 5** Convert  $\frac{14}{5}$  to a percentage.
- 6** Convert  $\frac{37}{20}$  to a percentage.
- 7** Convert  $\frac{27}{4}$  to a percentage.
- 8** Convert  $\frac{25}{8}$  to a percentage.
- 9** Convert  $\frac{15}{2}$  to a percentage.
- 10** Change  $\frac{43}{10}$  to a percent'.
- 11** Change  $\frac{21}{5}$  to a percent'.
- 12** Change  $\frac{147}{20}$  to a percent'.
- 13** Change  $\frac{67}{8}$  to a percent'.
- 14** Convert  $\frac{19}{4}$  to a percent'.
- 15** Change  $\frac{7}{2}$  to a percent'.
- 16** Convert  $\frac{31}{10}$  to a percent'.
- 17** Change  $\frac{18}{5}$  to a percent'.
- 18** Change  $\frac{89}{20}$  to a percent'.
- 19** Change  $\frac{11}{4}$  to a percent'.
- 20** Change  $\frac{45}{8}$  to a percent'.
- 21** Convert  $\frac{13}{2}$  to a percent'.
- 22** Convert  $\frac{99}{10}$  to a percent'.
- 23** Change  $\frac{16}{5}$  to a percent'.
- 24** Convert  $\frac{91}{20}$  to a percent'.
- 25** Convert  $\frac{23}{8}$  to a percentage.

No. Correct	% Score	Signature or Comment

# Decimals to Simple Fractions



## Method

-For numbers with one decimal place, ignore the decimal point and the zero in front of it. Then write the number as a numerator, with denominator 10. Simplify if possible.

-For numbers with two decimal places, ignore the decimal point and the zero in front of it. Then write the number as a numerator, with denominator 100. Simplify if possible.

-For numbers with three decimal places, ignore the decimal point and the zero in front of it. Then write the number as a numerator, with denominator 1 000. Simplify if possible.

### Example 1

Change 0.8 to a fraction.

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

$$= \frac{4}{5}$$

### Example 2

Change 0.64 to a fraction.

$$= \frac{64}{100}$$

$$= \frac{16}{25}$$

### Example 3

Change 0.625 to a fraction.

$$= \frac{625}{1000}$$

$$= \frac{5}{8}$$

**Try These:** (write your answers underneath the questions).

**1** Convert 0.7 to a fraction.

**2** Convert 0.3 to a fraction.

**3** Convert 0.9 to a fraction.

**4** Convert 0.4 to a fraction.

**5** Convert 0.8 to a fraction.

**6** Convert 0.2 to a fraction.

**7** Convert 0.13 to a fraction.

**8** Convert 0.49 to a fraction.

**9** Convert 0.73 to a fraction.

**10** Change 0.52 to a fraction.

**11** Change 0.36 to a fraction.

**12** Convert 0.84 to a fraction.

**13** Change 0.96 to a fraction.

**14** Change 0.72 to a fraction.

**15** Change 0.32 to a fraction.

**16** Change 0.517 to a fraction.

**17** Change 0.111 to a fraction.

**18** Change 0.999 to a fraction.

**19** Change 0.684 to a fraction.

**20** Change 0.484 to a fraction.

**21** Change 0.188 to a fraction.

**22** Change 0.096 to a fraction.

**23** Change 0.007 to a fraction.

**24** Change 0.008 to a fraction.

**25** Change 0.888 to a fraction.

No. Correct	% Score	Signature or Comment

# Decimals to Mixed Numerals



## Method

1. Ignore, for now, the whole number in front of the decimal point. Eg  $2.6 = 0.6 (+2)$
2. -For numbers with one decimal place, ignore the decimal point. Then write the number following the decimal point as a numerator with denominator 10. Simplify if possible.  
-For numbers with two decimal places, ignore the decimal point. Then write the number following the decimal point as a numerator with denominator 100. Simplify if possible.  
-For numbers with three decimal places, ignore the decimal point. Then write the number following the decimal point as a numerator with denominator 1 000. Simplify if possible.
3. Now write the whole number that you ignored in Step 1 in front of the fraction. (see Example 1)

### Example 1

Change 2.6 to a fraction.

$$= \frac{6}{10}$$

$$= \frac{3}{5}$$

$$\frac{3}{5} + 2 = \frac{2^3}{5}$$

### Example 2

Change 5.45 to a fraction.

$$= \frac{45}{100}$$

$$= \frac{9}{20}$$

$$\frac{9}{20} + 5 = \frac{5^9}{20}$$

### Example 3

Change 7.688 to a fraction.

$$= \frac{688}{1000}$$

$$= \frac{86}{125}$$

$$\frac{86}{125} + 7 = \frac{7^86}{125}$$

**Try These:** (write your answers underneath the questions).

**1** Change 3.1 to a mixed numeral. **2** Change 2.9 to a mixed numeral. **3** Change 1.7 to a mixed numeral.

**4** Change 4.6 to a mixed numeral. **5** Change 6.4 to a mixed numeral. **6** Change 8.8 to a mixed numeral.

**7** Change 1.17 to a mixed numeral. **8** Change 4.61 to a mixed numeral. **9** Change 8.37 to a mixed numeral.

**10** Change 7.48 to a mixed numeral. **11** Change 6.64 to a mixed numeral. **12** Change 4.84 to a mixed numeral.

**13** Change 9.32 to a mixed numeral. **14** Change 5.96 to a mixed numeral. **15** Change 3.72 to a mixed numeral.

**16** Change 2.127 to a mixed numeral. **17** Change 4.111 to a mixed numeral. **18** Change 6.999 to a mixed numeral.

**19** Change 8.208 to a mixed numeral. **20** Change 6.448 to a mixed numeral. **21** Change 3.648 to a mixed numeral.

**22** Change 4.024 to a mixed numeral. **23** Change 1.088 to a mixed numeral. **24** Change 5.001 to a mixed numeral.

**25** Change 9.248 to a mixed numeral.

No. Correct	% Score	Signature or Comment

# Decimals to Improper Fractions



## Method

1. Ignore, for now, the whole number in front of the decimal point. Eg  $2.6 = 0.6 (+2)$
2. -For numbers with one decimal place, ignore the decimal point. Then write the number following the decimal point as a numerator with denominator 10. Simplify if possible.  
-For numbers with two decimal places, ignore the decimal point. Then write the number following the decimal point as a numerator with denominator 100. Simplify if possible.  
-For numbers with three decimal places, ignore the decimal point. Then write the number following the decimal point as a numerator with denominator 1 000. Simplify if possible.
3. Now write the whole number that you ignored in Step 1 in front of the fraction. (see Example 1)
4. Convert to an improper fraction.
5. Simplify if necessary.

### Example 1

Change 3.7 to an improper fraction.

$$= \frac{7}{10} (+3)$$

$$\frac{7}{10} + 3 = \frac{37}{10}$$

$$= \frac{37}{10}$$

### Example 2

Change 5.24 to an improper fraction.

$$= \frac{24}{100} (+5)$$

$$\frac{6}{25} + 5 = \frac{56}{25}$$

$$= \frac{131}{25}$$

### Example 3

Change 2.468 to an improper fraction.

$$= \frac{468}{1000} (+2)$$

$$\frac{117}{250} + 2 = \frac{2117}{250}$$

$$= \frac{617}{250}$$

**Try These:** (write your answers underneath the questions).

**1** Change 5.9 to an improper fraction. **2** Change 7.3 to an improper fraction. **3** Change 4.9 to an improper fraction.

**4** Change 3.8 to an improper fraction. **5** Change 6.6 to an improper fraction. **6** Change 1.8 to an improper fraction.

**7** Change 3.41 to an improper fraction. **8** Change 1.73 to an improper fraction. **9** Change 2.57 to an improper fraction.

**10** Change 1.88 to an improper fract'n. **11** Change 4.08 to an improper fract'n. **12** Change 2.64 to an improper fract'n.

**13** Change 5.04 to an improper fract'n. **14** Change 7.01 to an improper fract'n. **15** Change 4.99 to an improper fract'n.

**16** Change 1.06 to an improper fract'n. **17** Change 8.08 to an improper fract'n. **18** Change 3.04 to an improper fract'n.

**19** Change 2.101 to an improp' fract'n. **20** Change 6.011 to an improp' fract'n. **21** Change 4.999 to an improp' fract'n.

**22** Change 7.408 to an improp' fract'n. **23** Change 3.008 to an improp' fract'n. **24** Change 2.404 to an improp' fract'n.

**25** Change 10.888 to an improper fraction.

No. Correct	% Score	Signature or Comment

# Decimals to Percentages



## Method

1. If necessary add a zero (or two if needed) to the end of the decimal number.
2. Move the decimal point two places to the right.
3. Affix a % sign at the end.

### Example 1

Convert 0.3 to a percentage.

$$0.3 = 0.300 = 30.0$$

$$= \underline{30\%}$$

### Example 2

Convert 1.24 to a percentage.

$$1.24 = 1.240 = 124.0$$

$$= \underline{124\%}$$

### Example 3

Convert 0.037 to a percentage.

$$0.037 = 003.7$$

$$= \underline{3.7\%}$$

**Try These:** (write your answers underneath the questions).

**1** Convert 0.07 to a percentage.**2** Convert 0.11 to a percentage.**3** Convert 0.98 to a percentage.**4** Convert 0.5 to a percentage.**5** Convert 0.2 to a percentage.**6** Convert 0.9 to a percentage.**7** Convert 0.09 to a percentage.**8** Convert 0.01 to a percentage.**9** Convert 0.05 to a percentage.**10** Convert 1.1 to a percentage.**11** Convert 1.01 to a percentage.**12** Convert 1.11 to a percentage.**13** Convert 2.05 to a percentage.**14** Convert 3.9 to a percentage.**15** Convert 1.5 to a percentage.**16** Convert 0.703 to a percentage.**17** Convert 0.078 to a percentage.**18** Convert 1.905 to a percentage.**19** Convert 0.009 to a percentage.**20** Convert 1.805 to a percentage.**21** Convert 0.085 to a percentage.**22** Convert 1.077 to a percentage.**23** Convert 0.005 to a percentage.**24** Convert 0.099 to a percentage.**25** Convert 0.011 to a percentage.

No. Correct	% Score	Signature or Comment

# Percentages to Simple Fractions



## Method

1. Write the percentage number as a numerator, with denominator 100.
2. Simplify if necessary.

### Example 1

Convert 75% to a fraction.

$$\frac{75}{100} = \frac{3}{4} \rightarrow = \frac{3}{4}$$

### Example 2

Convert 8% to a fraction.

$$\frac{8}{100} = \frac{2}{25} \rightarrow = \frac{2}{25}$$

### Example 3

Convert 0.5% to a fraction.

$$\frac{0.5}{100} = \frac{5}{10000} = \frac{1}{2000} \rightarrow = \frac{1}{2000}$$

**Try These:** (write your answers underneath the questions).

**1** Convert 25% to a fraction.

**2** Convert 10% to a fraction.

**3** Convert 40% to a fraction.

**4** Convert 30% to a fraction.

**5** Convert 99% to a fraction.

**6** Convert 11% to a fraction.

**7** Convert 45% to a fraction.

**8** Convert 55% to a fraction.

**9** Convert 35% to a fraction.

**10** Convert 64% to a fraction.

**11** Convert 84% to a fraction.

**12** Convert 24% to a fraction.

**13** Convert 9% to a fraction.

**14** Convert 5% to a fraction.

**15** Convert 1% to a fraction.

**16** Convert 8% to a fraction.

**17** Convert 4% to a fraction.

**18** Convert 2% to a fraction.

**19** Convert 78% to a fraction.

**20** Convert 11% to a fraction.

**21** Convert 36% to a fraction.

**22** Convert 44% to a fraction.

**23** Convert 99.9% to a fraction.

**24** Convert 0.9% to a fraction.

**25** Convert 0.2% to a fraction.

No. Correct	% Score	Signature or Comment

# Percentages to Improper Fractions



## Method

1. Write the percentage number as a numerator, with denominator 100.
2. Simplify if necessary.

### Example 1

Convert 141% to an improper fraction.

$$= \frac{141}{100}$$

### Example 2

Convert 150% to an improper fraction.

$$\frac{150}{100} = \frac{3}{2}$$

### Example 3

Convert 180% to an improper fraction.

$$\frac{180}{100} = \frac{9}{5}$$

### Example 4

Convert 250% to an improper fraction.

$$\frac{250}{100} = \frac{5}{2}$$

**Try These:** (write your answers underneath the questions).

- 1 Convert 125% to an improper fraction.
- 2 Convert 190% to an improper fraction.
- 3 Convert 140% to an improper fraction.
- 4 Convert 119% to an improper fraction.
- 5 Convert 101% to an improper fraction.
- 6 Convert 111% to an improper fraction.
- 7 Convert 112% to an improper fraction.
- 8 Convert 124% to an improper fraction.
- 9 Convert 160% to an improper fraction.
- 10 Convert 120% to an improper fraction.
- 11 Convert 145% to an improper fraction.
- 12 Convert 175% to an improper fraction.
- 13 Convert 102% to an improper fraction.
- 14 Convert 182% to an improper fraction.
- 15 Convert 113% to an improper fraction.
- 16 Convert 105% to an improper fraction.
- 17 Convert 135% to an improper fraction.
- 18 Convert 118% to an improper fraction.
- 19 Convert 148% to an improper fraction.
- 20 Convert 104% to an improper fraction.
- 21 Convert 122% to an improper fraction.
- 22 Convert 128% to an improper fraction.
- 23 Convert 139% to an improper fraction.
- 24 Convert 199% to an improper fraction.
- 25 Convert 126% to an improper fraction.

No. Correct	% Score	Signature or Comment



# Percentages to Mixed Numerals



## Method

1. Write the percentage number as a numerator, with denominator 100.
2. Simplify if possible.
3. Convert to a mixed numeral.

### Example 1

Convert 125% to a mixed numeral.

$$\frac{125}{100} = \frac{5}{4} = 1\frac{1}{4} \\ \rightarrow \\ = \underline{1\frac{1}{4}}$$

### Example 2

Convert 150% to a mixed numeral.

$$\frac{150}{100} = \frac{3}{2} = 1\frac{1}{2} \\ \rightarrow \\ = \underline{1\frac{1}{2}}$$

### Example 3

Convert 110.5% to a mixed numeral.

$$\frac{110.5}{100} = \frac{1105}{1000} = \frac{221}{200} = 1\frac{21}{200} \\ \swarrow \\ = \underline{1\frac{21}{200}}$$

**Try These:** (write your answers underneath the questions).

**1** Convert 175% to a mixed numeral.    **2** Convert 120% to a mixed num.    **3** Convert 110% to a mixed num.

**4** Convert 160% to a mixed numeral.    **5** Convert 180% to a mixed num.    **6** Convert 105% to a mixed num.

**7** Convert 140% to a mixed numeral.    **8** Convert 170% to a mixed num.    **9** Convert 130% to a mixed num.

**10** Convert 138% to a mixed num.    **11** Convert 172% to a mixed num.    **12** Convert 184% to a mixed num.

**13** Convert 155% to a mixed num.    **14** Convert 135% to a mixed num.    **15** Convert 185% to a mixed num.

**16** Convert 101% to a mixed num.    **17** Convert 105% to a mixed num.    **18** Convert 199% to a mixed num.

**19** Convert 123% to a mixed num.    **20** Convert 155% to a mixed num.    **21** Convert 165.5% to a mixed num.

**22** Convert 225% to a mixed num.    **23** Convert 275% to a mixed num.    **24** Convert 255% to a mixed num.

**25** Convert 275.5% to a mixed numeral.

No. Correct	% Score	Signature or Comment

# Percentages to Decimals



## Method

1. Remove the % sign and divide by 100 (or move the decimal point two places to the left).
2. If the percentage is less than 100% affix a zero in front of the decimal point.

### Example 1

Convert 75% to a decimal.

$$75 = 75.0$$

$$\searrow$$

$$0.75$$

### Example 2

Convert 150% to a decimal.

$$150 = 150.0$$

$$\searrow$$

$$1.5$$

### Example 3

Convert 32.8% to a decimal.

$$32.8$$

$$\searrow$$

$$0.328$$

**Try These:** (write your answers underneath the questions).

**1** Convert 10% to a decimal.

**2** Convert 85% to a decimal.

**3** Convert 60% to a decimal.

**4** Convert 70% to a decimal.

**5** Convert 11% to a decimal.

**6** Convert 99% to a decimal.

**7** Convert 100% to a decimal.

**8** Convert 9% to a decimal.

**9** Convert 101% to a decimal.

**10** Convert 1% to a decimal.

**11** Convert 50% to a decimal.

**12** Convert 5% to a decimal.

**13** Convert 110% to a decimal.

**14** Convert 2% to a decimal.

**15** Convert 200% to a decimal.

**16** Convert 8% to a decimal.

**17** Convert 45% to a decimal.

**18** Convert 66% to a decimal.

**19** Convert 6% to a decimal.

**20** Convert 35% to a decimal.

**21** Convert 7% to a decimal.

**22** Convert 75.5% to a decimal.

**23** Convert 60.9% to a decimal.

**24** Convert 99.9% to a decimal.

**25** Convert 101.1% to a decimal.

No. Correct	% Score	Signature or Comment

**Conversion Table (Easy)**Fill in the missing fractions, decimals and percentages. *The first row is already complete.*

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$		
		75%
	0.1	
$\frac{1}{5}$	0.2	
$\frac{2}{5}$		40%
$\frac{3}{5}$	0.6	
$\frac{4}{5}$		80%
$\frac{1}{20}$		
		15%
	0.35	
		95%
	0.55	
$\frac{1}{50}$		
	0.06	
		98%
	0.14	
	0.94	
$\frac{9}{50}$		
		42%
	0.22	
$\frac{39}{50}$		
		26%
	0.74	
$\frac{17}{50}$		

**Conversion Table (Harder)**

Fill in the missing fractions, decimals and percentages. *The first row is already complete.*

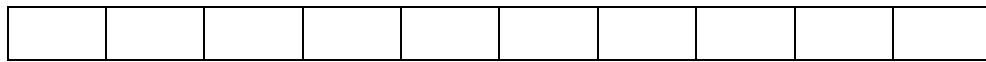
Fraction	Decimal	Percentage
$\frac{7}{25}$	0.28	28%
$\frac{1}{25}$		
		96%
	0.52	
$\frac{3}{25}$		
		92%
	0.48	
$\frac{4}{25}$		
		88%
	0.56	
$\frac{9}{25}$		
		76%
	0.44	
$\frac{6}{25}$		
		72%
	0.64	
$\frac{17}{25}$		
		1%
	0.93	
$\frac{9}{100}$		
		0.9%
	0.007	
$\frac{3}{1000}$		
		0.1%
$\frac{1}{10000}$		

# Graphic Conversions (Easy)

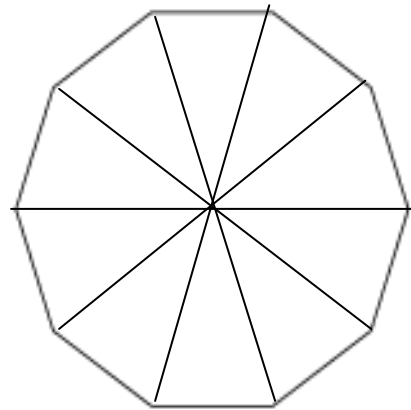
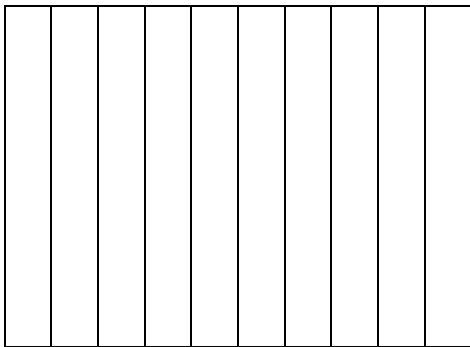
**1.** In the rectangle below write the **shaded** part as a: **2.** Write the **unshaded** part as a:  
 fraction ..... decimal ..... percent ..... fraction ..... decimal ..... percent .....



**3.** In the rectangle below colour  $\frac{1}{10}$  red, 0.3 yellow, 10% blue.  
 How much is now unshaded? fraction ..... decimal ..... percent .....

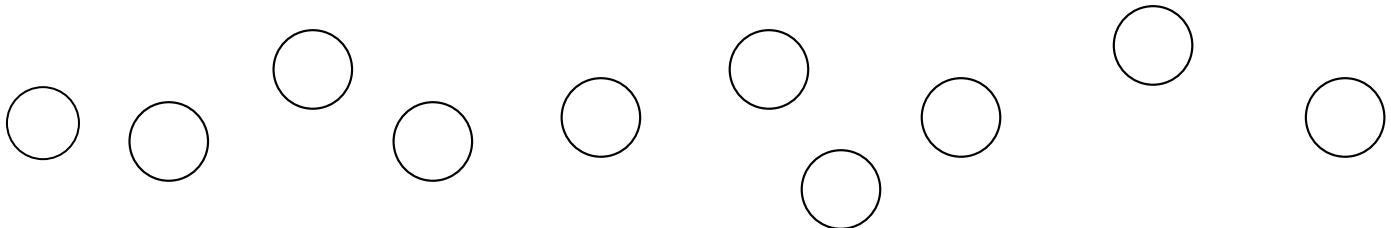


**4.** Colour  $\frac{1}{10}$  of the decagon red, 0.1 yellow and 40% blue.  
 How much is still white?  
 fraction ..... decimal ..... percent .....

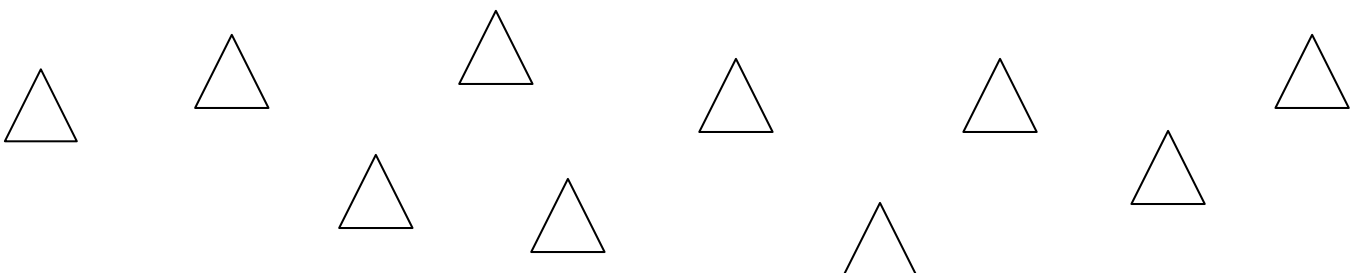


**5.** Colour  $\frac{3}{10}$  of the figure on the left red, 0.2 yellow and 20% blue. How much is still white?  
 fraction ..... decimal ..... percent .....

**6.** Below are 10 circles. Colour  $\frac{3}{10}$  of them red, 0.1 of them yellow and 40% of them blue.  
 How many are now white?  
 fraction ..... decimal ..... percent .....



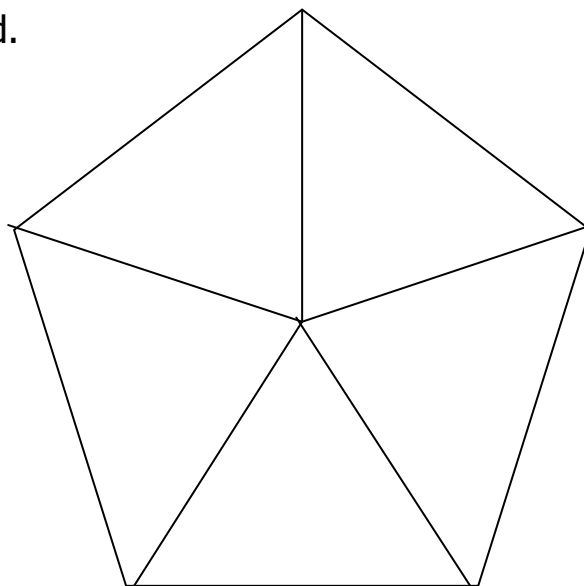
**7.** Colour  $\frac{1}{10}$  of the triangles red, 0.3 of them yellow and 10% of them blue.  
 How many are now white?  
 fraction ..... decimal ..... percent .....



# Graphic Conversions (Mid-Level)

**1.** Colour one of the pentagon's five sections red.  
How much of the pentagon did you colour?

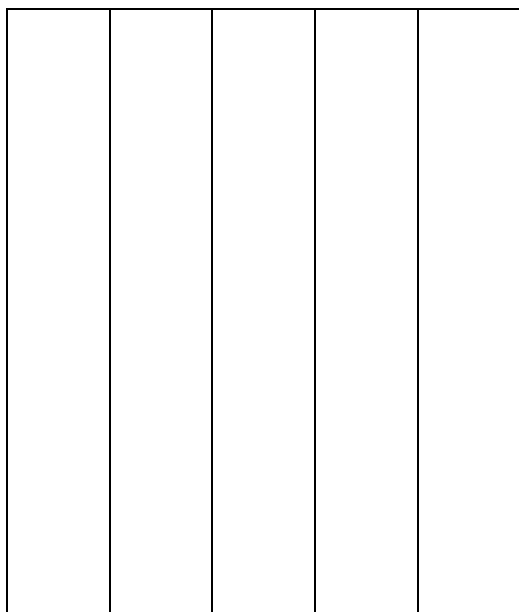
fraction ..... decimal ..... percent .....



**2.** Now colour two of the pentagon's sections blue.

How much of the pentagon is **not** coloured now? (how much is white?)

fraction ..... decimal ..... percent .....



**3.** In the figure to the left colour one column yellow.

How much of the figure is **not** yellow?

fraction ..... decimal ..... percent .....

**4.** Now colour one column blue.

How much of the figure is **not** coloured?

fraction ..... decimal ..... percent .....

**5.** The figure on the right is made up of 20 squares, all the same size.

Colour 4 of the squares red.

How much of the figure is now red?

fraction ..... decimal ..... percent .....

**6.** Now colour 7 of the squares blue.

How much of the figure is blue?

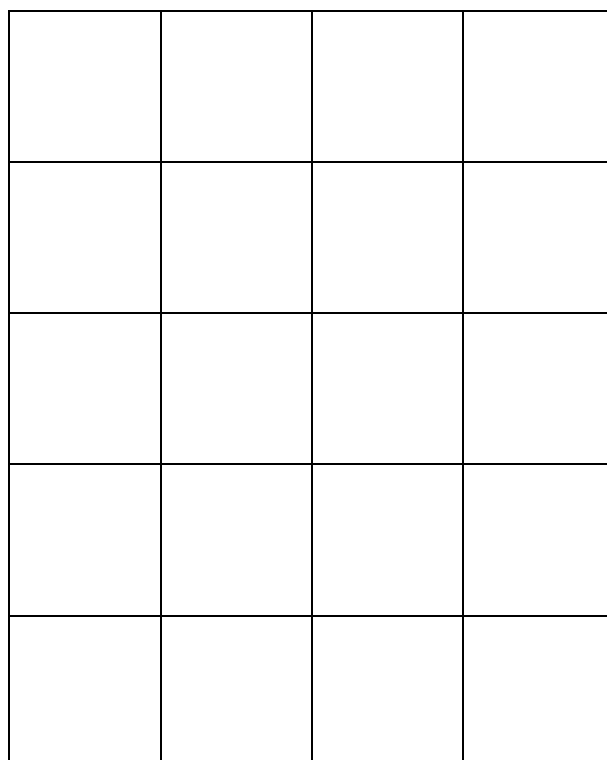
fraction ..... decimal ..... percent .....

**7.** How much of the figure have you coloured?

fraction ..... decimal ..... percent .....

**8.** How much of the figure remains white?

fraction ..... decimal ..... percent .....



# Graphic Conversions (Harder)

**1.** Colour 3 of the octagon's 8 parts blue.  
How much of the octagon is blue?

fraction ..... decimal ..... percent .....

**2.** Colour 1 of the octagon's parts yellow.  
How much of the octagon is yellow?

fraction ..... decimal ..... percent .....

**3.** Colour 2 of the octagon's parts blue.  
How much of the octagon is blue?

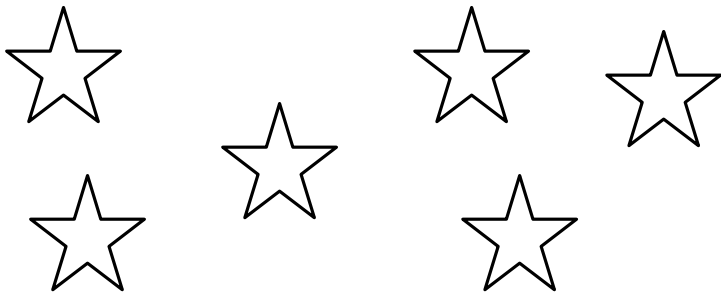
fraction ..... decimal ..... percent .....

**4.** How much of the octagon is coloured?

fraction ..... decimal ..... percent .....

**6.** Colour 4 of the 16 stars blue.  
Of all the stars, the blue ones account for:

fraction ..... decimal ..... percent .....

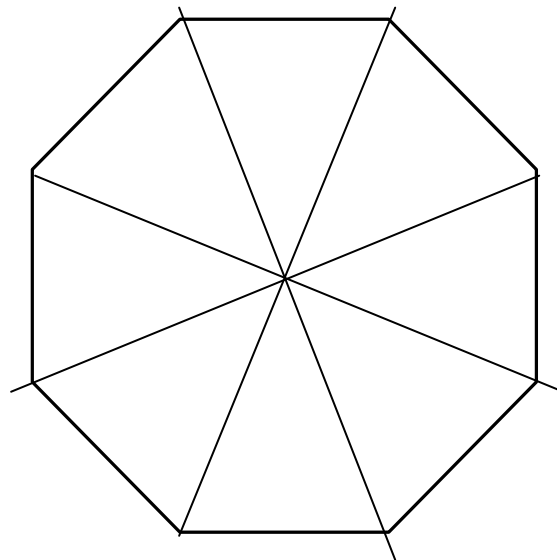
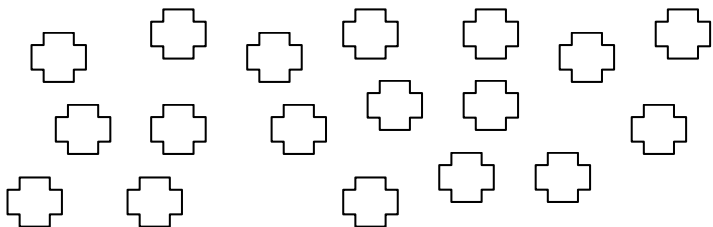


**7.** Colour 6 of the 16 stars yellow. Of all the stars, the yellow ones account for:

fraction ..... decimal ..... percent .....

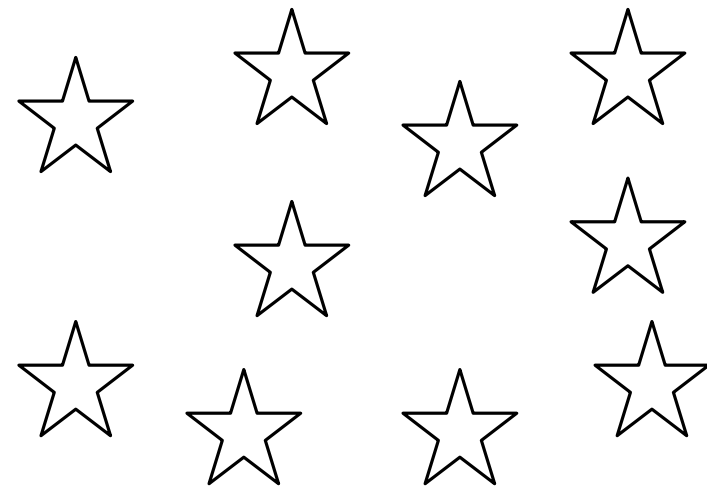
**9.** Colour 20 of the 32 crosses red. Of all the crosses, the red ones account for:

fraction ..... decimal ..... percent .....



**5.** How much of the octagon is **not** coloured?

fraction ..... decimal ..... percent .....

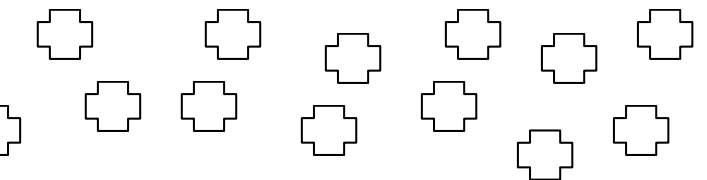


**8.** Colour the rest of the stars yellow. Of all the stars, the yellow ones account for:

fraction ..... decimal ..... percent .....

**10.** Colour 8 of the crosses blue. Of all the crosses, the ones that are **not** coloured account for:

fraction ..... decimal ..... percent .....



# Solutions

Simple Fractions to Decimals <i>p5</i>				
1 <b>0.75</b>	2 <b>0.8</b>	3 <b>0.625</b>	4 <b>0.7</b>	5 <b>0.45</b>
6 <b>0.6</b>	7 <b>0.875</b>	8 <b>0.08</b>	9 <b>0.55</b>	10 <b>0.2</b>
11 <b>0.125</b>	12 <b>0.9</b>	13 <b>0.35</b>	14 <b>0.275</b>	15 <b>0.4</b>
16 <b>0.65</b>	17 <b>0.03</b>	18 <b>0.0625</b>	19 <b>0.85</b>	20 <b>0.37</b>
21 <b>0.0875</b>	22 <b>0.017</b>	23 <b>0.95</b>	24 <b>0.49</b>	25 <b>0.001</b>

Mixed Numerals to Decimals <i>p6</i>				
1 <b>2.5</b>	2 <b>4.25</b>	3 <b>4.625</b>	4 <b>5.7</b>	5 <b>8.125</b>
6 <b>6.8</b>	7 <b>1.2</b>	8 <b>11.55</b>	9 <b>9.175</b>	10 <b>3.13</b>
11 <b>12.35</b>	12 <b>9.05</b>	13 <b>10.8</b>	14 <b>2.625</b>	15 <b>8.6</b>
16 <b>5.09</b>	17 <b>7.375</b>	18 <b>14.85</b>	19 <b>6.4</b>	20 <b>5.875</b>
21 <b>1.15</b>	22 <b>12.95</b>	23 <b>2.19</b>	24 <b>6.0125</b>	25 <b>8.35</b>

Improper Fractions to Decimals <i>p7</i>				
1 <b>4.75</b>	2 <b>8.125</b>	3 <b>6.35</b>	4 <b>4.13</b>	5 <b>7.8</b>
6 <b>2.121</b>	7 <b>9.25</b>	8 <b>3.875</b>	9 <b>4.55</b>	10 <b>2.175</b>
11 <b>1.11</b>	12 <b>11.6</b>	13 <b>4.007</b>	14 <b>12.25</b>	15 <b>6.125</b>
16 <b>10.85</b>	17 <b>4.525</b>	18 <b>7.91</b>	19 <b>9.6</b>	20 <b>8.126</b>
21 <b>8.75</b>	22 <b>11.625</b>	23 <b>5.65</b>	24 <b>3.575</b>	25 <b>6.03</b>

*continued*



*Solutions continued***Simple Fractions to Percentages *p8***

1 <b>60%</b>	2 <b>62.5%</b>	3 <b>15%</b>	4 <b>37.5%</b>	5 <b>80%</b>
6 <b>35%</b>	7 <b>12.5%</b>	8 <b>87.5%</b>	9 <b>55%</b>	10 <b>17%</b>
11 <b>85%</b>	12 <b>47.5%</b>	13 <b>1.7%</b>	14 <b>49%</b>	15 <b>1.3%</b>
16 <b>34%</b>	17 <b>45%</b>	18 <b>5%</b>	19 <b>97.5%</b>	20 <b>74%</b>
21 <b>0.3%</b>	22 <b>8.75%</b>	23 <b>95%</b>	24 <b>57.5%</b>	25 <b>3.75%</b>

**Mixed Numerals to Percentages *p9***

1 <b>380%</b>	2 <b>237.5%</b>	3 <b>145%</b>	4 <b>412.5%</b>	5 <b>160%</b>
6 <b>255%</b>	7 <b>250%</b>	8 <b>362.5%</b>	9 <b>485%</b>	10 <b>130%</b>
11 <b>275%</b>	12 <b>160%</b>	13 <b>650%</b>	14 <b>137.5%</b>	15 <b>515%</b>
16 <b>790%</b>	17 <b>625%</b>	18 <b>260%</b>	19 <b>350%</b>	20 <b>337.5%</b>
21 <b>415%</b>	22 <b>490%</b>	23 <b>525%</b>	24 <b>180%</b>	25 <b>807%</b>

**Improper Fractions to Percentages *p10***

1 <b>225%</b>	2 <b>137.5%</b>	3 <b>450%</b>	4 <b>110%</b>	5 <b>280%</b>
6 <b>185%</b>	7 <b>675%</b>	8 <b>312.5%</b>	9 <b>750%</b>	10 <b>430%</b>
11 <b>420%</b>	12 <b>735%</b>	13 <b>837.5%</b>	14 <b>475%</b>	15 <b>350%</b>
16 <b>310%</b>	17 <b>360%</b>	18 <b>445%</b>	19 <b>275%</b>	20 <b>562.5%</b>
21 <b>650%</b>	22 <b>990%</b>	23 <b>320%</b>	24 <b>455%</b>	25 <b>287.5%</b>

*continued*

*Solutions continued*

<b>Decimals to Simple Fractions p11</b>									
1	$\frac{7}{10}$	2	$\frac{3}{10}$	3	$\frac{9}{10}$	4	$\frac{2}{5}$	5	$\frac{4}{5}$
6	$\frac{1}{5}$	7	$\frac{13}{100}$	8	$\frac{49}{100}$	9	$\frac{73}{100}$	10	$\frac{13}{25}$
11	$\frac{9}{25}$	12	$\frac{21}{25}$	13	$\frac{24}{25}$	14	$\frac{18}{25}$	15	$\frac{8}{25}$
16	$\frac{517}{1000}$	17	$\frac{111}{1000}$	18	$\frac{999}{1000}$	19	$\frac{171}{250}$	20	$\frac{121}{250}$
21	$\frac{47}{250}$	22	$\frac{12}{125}$	23	$\frac{7}{1000}$	24	$\frac{1}{125}$	25	$\frac{111}{125}$

<b>Decimals to Mixed Numerals p12</b>									
1	$3\frac{1}{10}$	2	$2\frac{9}{10}$	3	$1\frac{7}{10}$	4	$4\frac{3}{5}$	5	$6\frac{2}{5}$
6	$8\frac{4}{5}$	7	$1\frac{17}{100}$	8	$4\frac{61}{100}$	9	$8\frac{37}{100}$	10	$7\frac{12}{25}$
11	$6\frac{16}{25}$	12	$4\frac{21}{25}$	13	$9\frac{8}{25}$	14	$5\frac{24}{25}$	15	$3\frac{18}{25}$
16	$2\frac{127}{1000}$	17	$4\frac{111}{1000}$	18	$6\frac{999}{1000}$	19	$8\frac{26}{125}$	20	$6\frac{56}{125}$
21	$3\frac{81}{125}$	22	$4\frac{3}{125}$	23	$1\frac{11}{125}$	24	$5\frac{1}{1000}$	25	$9\frac{31}{125}$

<b>Decimals to Improper Fractions p13</b>									
1	$\frac{59}{10}$	2	$\frac{73}{10}$	3	$\frac{49}{10}$	4	$\frac{19}{5}$	5	$\frac{33}{5}$
6	$\frac{9}{5}$	7	$\frac{341}{100}$	8	$\frac{173}{100}$	9	$\frac{257}{100}$	10	$\frac{47}{25}$
11	$\frac{102}{25}$	12	$\frac{66}{25}$	13	$\frac{126}{25}$	14	$\frac{701}{100}$	15	$\frac{499}{100}$
16	$\frac{53}{50}$	17	$\frac{202}{25}$	18	$\frac{76}{25}$	19	$\frac{2101}{1000}$	20	$\frac{6011}{1000}$
21	$\frac{4999}{1000}$	22	$\frac{926}{125}$	23	$\frac{376}{125}$	24	$\frac{601}{250}$	25	$\frac{1361}{125}$

*continued*

*Solutions continued*

<b>Decimals to Percentages <i>p14</i></b>									
1	<b>7%</b>	2	<b>11%</b>	3	<b>98%</b>	4	<b>50%</b>	5	<b>20%</b>
6	<b>90%</b>	7	<b>9%</b>	8	<b>1%</b>	9	<b>5%</b>	10	<b>110%</b>
11	<b>101%</b>	12	<b>111%</b>	13	<b>205%</b>	14	<b>390%</b>	15	<b>150%</b>
16	<b>70.3%</b>	17	<b>7.8%</b>	18	<b>190.5%</b>	19	<b>0.9%</b>	20	<b>180.5%</b>
21	<b>8.5%</b>	22	<b>107.7%</b>	23	<b>0.5%</b>	24	<b>9.9%</b>	25	<b>1.1%</b>

<b>Percentages to Simple Fractions <i>p15</i></b>									
1	<b><math>\frac{1}{4}</math></b>	2	<b><math>\frac{1}{10}</math></b>	3	<b><math>\frac{2}{5}</math></b>	4	<b><math>\frac{3}{10}</math></b>	5	<b><math>\frac{99}{100}</math></b>
6	<b><math>\frac{11}{100}</math></b>	7	<b><math>\frac{9}{20}</math></b>	8	<b><math>\frac{11}{20}</math></b>	9	<b><math>\frac{7}{20}</math></b>	10	<b><math>\frac{16}{25}</math></b>
11	<b><math>\frac{21}{25}</math></b>	12	<b><math>\frac{6}{25}</math></b>	13	<b><math>\frac{9}{100}</math></b>	14	<b><math>\frac{1}{20}</math></b>	15	<b><math>\frac{1}{100}</math></b>
16	<b><math>\frac{2}{25}</math></b>	17	<b><math>\frac{1}{25}</math></b>	18	<b><math>\frac{1}{50}</math></b>	19	<b><math>\frac{39}{50}</math></b>	20	<b><math>\frac{11}{100}</math></b>
21	<b><math>\frac{9}{25}</math></b>	22	<b><math>\frac{11}{25}</math></b>	23	<b><math>\frac{999}{1000}</math></b>	24	<b><math>\frac{9}{1000}</math></b>	25	<b><math>\frac{1}{500}</math></b>

<b>Percentages to Improper Fractions <i>p16</i></b>									
1	<b><math>\frac{5}{4}</math></b>	2	<b><math>\frac{19}{10}</math></b>	3	<b><math>\frac{7}{5}</math></b>	4	<b><math>\frac{119}{100}</math></b>	5	<b><math>\frac{101}{100}</math></b>
6	<b><math>\frac{111}{100}</math></b>	7	<b><math>\frac{28}{25}</math></b>	8	<b><math>\frac{31}{25}</math></b>	9	<b><math>\frac{8}{5}</math></b>	10	<b><math>\frac{6}{5}</math></b>
11	<b><math>\frac{29}{20}</math></b>	12	<b><math>\frac{7}{4}</math></b>	13	<b><math>\frac{51}{50}</math></b>	14	<b><math>\frac{91}{50}</math></b>	15	<b><math>\frac{113}{100}</math></b>
16	<b><math>\frac{21}{20}</math></b>	17	<b><math>\frac{27}{20}</math></b>	18	<b><math>\frac{59}{50}</math></b>	19	<b><math>\frac{37}{25}</math></b>	20	<b><math>\frac{26}{25}</math></b>
21	<b><math>\frac{61}{50}</math></b>	22	<b><math>\frac{32}{25}</math></b>	23	<b><math>\frac{139}{100}</math></b>	24	<b><math>\frac{199}{100}</math></b>	25	<b><math>\frac{63}{50}</math></b>

*continued*

*Solutions continued*

<b>Percentages to Mixed Numerals <i>p17</i></b>									
1	<b><math>1^3/4</math></b>	2	<b><math>1^1/5</math></b>	3	<b><math>1^1/10</math></b>	4	<b><math>1^3/5</math></b>	5	<b><math>1^4/5</math></b>
6	<b><math>1^1/20</math></b>	7	<b><math>1^2/5</math></b>	8	<b><math>1^7/10</math></b>	9	<b><math>1^3/10</math></b>	10	<b><math>1^{19}/50</math></b>
11	<b><math>1^{18}/25</math></b>	12	<b><math>1^{21}/25</math></b>	13	<b><math>1^{11}/20</math></b>	14	<b><math>1^7/20</math></b>	15	<b><math>1^{17}/20</math></b>
16	<b><math>1^1/100</math></b>	17	<b><math>1^1/20</math></b>	18	<b><math>1^{99}/100</math></b>	19	<b><math>1^{23}/100</math></b>	20	<b><math>1^{11}/20</math></b>
21	<b><math>1^{131}/200</math></b>	22	<b><math>2^1/4</math></b>	23	<b><math>2^3/4</math></b>	24	<b><math>2^{11}/20</math></b>	25	<b><math>2^{151}/200</math></b>

<b>Percentages to Decimals <i>p18</i></b>									
1	<b>0.1</b>	2	<b>0.85</b>	3	<b>0.6</b>	4	<b>0.7</b>	5	<b>0.11</b>
6	<b>0.99</b>	7	<b>1.0</b>	8	<b>0.09</b>	9	<b>1.01</b>	10	<b>0.01</b>
11	<b>0.5</b>	12	<b>0.05</b>	13	<b>1.1</b>	14	<b>0.02</b>	15	<b>2.0</b>
16	<b>0.08</b>	17	<b>0.45</b>	18	<b>0.66</b>	19	<b>0.06</b>	20	<b>0.35</b>
21	<b>0.07</b>	22	<b>0.755</b>	23	<b>0.609</b>	24	<b>0.999</b>	25	<b>1.011</b>

*continued*

*Solutions continued***Conversion Table (Easy)**

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	<b>0.25</b>	<b>25%</b>
<b><math>\frac{3}{4}</math></b>	<b>0.75</b>	75%
<b><math>\frac{1}{10}</math></b>	0.1	<b>10%</b>
$\frac{1}{5}$	0.2	<b>20%</b>
$\frac{2}{5}$	<b>0.4</b>	40%
$\frac{3}{5}$	0.6	<b>60%</b>
$\frac{4}{5}$	<b>0.8</b>	80%
$\frac{1}{20}$	<b>0.05</b>	<b>5%</b>
<b><math>\frac{3}{20}</math></b>	<b>0.15</b>	15%
<b><math>\frac{7}{20}</math></b>	0.35	<b>35%</b>
<b><math>\frac{19}{20}</math></b>	<b>0.95</b>	95%
<b><math>\frac{11}{20}</math></b>	0.55	<b>55%</b>
$\frac{1}{50}$	<b>0.02</b>	<b>2%</b>
<b><math>\frac{3}{50}</math></b>	0.06	<b>6%</b>
<b><math>\frac{49}{50}</math></b>	<b>0.98</b>	98%
<b><math>\frac{7}{50}</math></b>	0.14	<b>14%</b>
<b><math>\frac{47}{50}</math></b>	0.94	<b>94%</b>
$\frac{9}{50}$	<b>0.18</b>	<b>18%</b>
<b><math>\frac{21}{50}</math></b>	<b>0.42</b>	42%
<b><math>\frac{11}{50}</math></b>	0.22	<b>22%</b>
$\frac{39}{50}$	<b>0.78</b>	<b>78%</b>
<b><math>\frac{13}{50}</math></b>	<b>0.26</b>	26%
<b><math>\frac{37}{50}</math></b>	0.74	<b>74%</b>
$\frac{17}{50}$	<b>0.34</b>	<b>34%</b>

*Solutions continued***Conversion Table (Harder)**

Fraction	Decimal	Percentage
$\frac{7}{25}$	0.28	28%
$\frac{1}{25}$	<b>0.04</b>	<b>4%</b>
$\frac{24}{25}$	<b>0.96</b>	96%
$\frac{13}{25}$	0.52	<b>52%</b>
$\frac{3}{25}$	<b>0.12</b>	<b>12%</b>
$\frac{23}{25}$	<b>0.92</b>	92%
$\frac{12}{25}$	0.48	<b>48%</b>
$\frac{4}{25}$	<b>0.16</b>	<b>16%</b>
$\frac{22}{25}$	<b>0.88</b>	88%
$\frac{14}{25}$	0.56	<b>56%</b>
$\frac{9}{25}$	<b>0.36</b>	<b>36%</b>
$\frac{19}{25}$	<b>0.76</b>	76%
$\frac{11}{25}$	0.44	<b>44%</b>
$\frac{6}{25}$	<b>0.24</b>	<b>24%</b>
$\frac{18}{25}$	<b>0.72</b>	72%
$\frac{16}{25}$	0.64	<b>64%</b>
$\frac{17}{25}$	<b>0.68</b>	<b>68%</b>
$\frac{1}{100}$	<b>0.01</b>	1%
$\frac{93}{100}$	0.93	<b>93%</b>
$\frac{9}{100}$	<b>0.09</b>	<b>9%</b>
$\frac{9}{1000}$	<b>0.009</b>	0.9%
$\frac{7}{1000}$	0.007	<b>0.7%</b>
$\frac{3}{1000}$	<b>0.003</b>	<b>0.3%</b>
$\frac{1}{1000}$	<b>0.001</b>	0.1%
$\frac{1}{10000}$	<b>0.0001</b>	<b>0.01%</b>

*Solutions continued***Graphic Conversions (Easy)**

<b>1.</b>	$\frac{2}{5}$	<b>0.4</b>	<b>40%</b>	<b>2.</b>	$\frac{3}{5}$	<b>0.6</b>	<b>60%</b>
<b>3.</b>	$\frac{1}{2}$	<b>0.5</b>	<b>50%</b>	<b>4.</b>	$\frac{2}{5}$	<b>0.4</b>	<b>40%</b>
<b>5.</b>	$\frac{3}{10}$	<b>0.3</b>	<b>30%</b>	<b>6.</b>	$\frac{1}{5}$	<b>0.2</b>	<b>20%</b>
<b>7.</b>	$\frac{1}{2}$	<b>0.5</b>	<b>50%</b>				

**Graphic Conversions (Mid-Level)**

<b>1.</b>	$\frac{1}{5}$	<b>0.2</b>	<b>20%</b>	<b>2.</b>	$\frac{2}{5}$	<b>0.4</b>	<b>40%</b>
<b>3.</b>	$\frac{4}{5}$	<b>0.8</b>	<b>80%</b>	<b>4.</b>	$\frac{3}{5}$	<b>0.6</b>	<b>60%</b>
<b>5.</b>	$\frac{1}{5}$	<b>0.2</b>	<b>20%</b>	<b>6.</b>	$\frac{7}{20}$	<b>0.35</b>	<b>35%</b>
<b>7.</b>	$\frac{11}{20}$	<b>0.55</b>	<b>55%</b>	<b>8.</b>	$\frac{9}{20}$	<b>0.45</b>	<b>45%</b>

**Graphic Conversions (Harder)**

<b>1.</b>	$\frac{3}{8}$	<b>0.375</b>	<b>37.5%</b>	<b>2.</b>	$\frac{1}{8}$	<b>0.125</b>	<b>12.5%</b>
<b>3.</b>	$\frac{1}{4}$	<b>0.25</b>	<b>25%</b>	<b>4.</b>	$\frac{3}{4}$	<b>0.75</b>	<b>75%</b>
<b>5.</b>	$\frac{1}{4}$	<b>0.25</b>	<b>25%</b>	<b>6.</b>	$\frac{1}{4}$	<b>0.25</b>	<b>25%</b>
<b>7.</b>	$\frac{3}{8}$	<b>0.375</b>	<b>37.5%</b>	<b>8.</b>	$\frac{3}{8}$	<b>0.375</b>	<b>37.5%</b>
<b>9.</b>	$\frac{5}{8}$	<b>0.625</b>	<b>62.5%</b>	<b>10.</b>	$\frac{1}{8}$	<b>0.125</b>	<b>12.5%</b>