

# Varied Fluency

## Step 9: Percentages as Fractions and Decimals

### National Curriculum Objectives:

Mathematics Year 5: (5F11) [Recognise the per cent symbol \(%\) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal](#)

Mathematics Year 5: (5F12) [Solve problems which require knowing percentage and decimal equivalents of  \$\frac{1}{2}\$ ,  \$\frac{1}{4}\$ ,  \$\frac{1}{5}\$ ,  \$\frac{2}{5}\$ ,  \$\frac{4}{5}\$  and those fractions with a denominator of a multiple of 10 or 25](#)

### Differentiation:

**Developing** Questions to support representing percentages as fractions and decimals. Uses 100 as a denominator and knowledge of hundredths.

**Expected** Questions to support representing percentages as fractions and decimals. Uses 100 and direct multiples of 100 as a denominator e.g.  $\frac{50}{200}$  and knowledge of hundredths.

**Greater Depth** Questions to support representing percentages as fractions where the denominator is  $< 100$ , 100 or a multiple of 100 and decimals using knowledge of tenths and hundredths.

More [Year 5 Decimals and Percentages](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

1a. Match the fractions to the equivalent decimal and percentage.

A. $\frac{18}{100}$	0.08	18%
B. $\frac{81}{100}$	0.18	81%
C. $\frac{8}{100}$	0.81	8%



VF

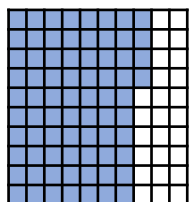
1b. Match the fractions to the equivalent decimal and percentage.

A. $\frac{25}{100}$	0.5	5%
B. $\frac{5}{100}$	0.25	50%
C. $\frac{50}{100}$	0.05	25%

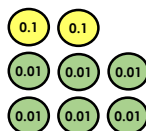


VF

2a. Circle the odd one out.

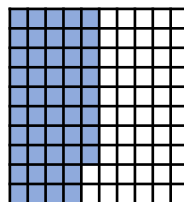


26%

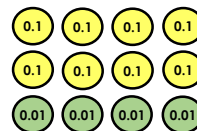


VF

2b. Circle the odd one out.



48%



VF

3a. True or false?

32% is equivalent to 3.2



VF

3b. True or false?

32% is equivalent to  $\frac{32}{100}$



VF

4a. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A.  $\boxed{\phantom{00}} = 0.83 = 83\%$

B.  $\frac{64}{100} = 0.64 = \boxed{\phantom{00}}$

C.  $\frac{72}{100} = \boxed{\phantom{00}} = 72\%$



VF

4b. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A.  $\frac{24}{100} = 0.24 = \boxed{\phantom{00}}$

B.  $\frac{32}{100} = \boxed{\phantom{00}} = 32\%$

C.  $\boxed{\phantom{00}} = 0.65 = 65\%$



VF

5a. Match the fractions to the equivalent decimal and percentage.

A. $\frac{36}{300}$	0.65	42%
B. $\frac{65}{100}$	0.42	65%
C. $\frac{84}{200}$	0.12	12%



VF

5b. Match the fractions to the equivalent decimal and percentage.

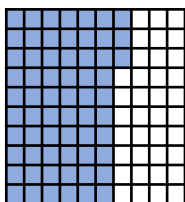
A. $\frac{57}{100}$	0.34	11%
B. $\frac{44}{400}$	0.57	57%
C. $\frac{68}{200}$	0.11	34%



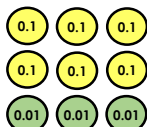
VF

6a. Circle the odd one out.

63%



$$\frac{63}{300}$$



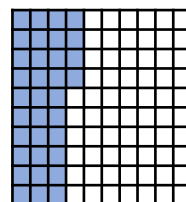
0.63



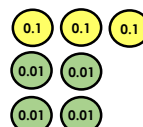
VF

6b. Circle the odd one out.

34%



$$\frac{34}{100}$$



3.4



VF

7a. True or false?

75% is equivalent to 7.5



VF

7b. True or false?

42% is equivalent to  $\frac{84}{200}$



VF

8a. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A.  $\frac{64}{200} = \square = 32\%$

B.  $\square = 0.24 = 24\%$

C.  $\frac{36}{100} = 0.36 = \square$



VF

8b. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A.  $\square = 0.52 = 52\%$

B.  $\frac{82}{200} = \square = 41\%$

C.  $\frac{44}{200} = 0.22 = \square$



VF

9a. Match the fractions to the equivalent decimal and percentage.

A. $\frac{26}{50}$	0.6	80%
B. $\frac{15}{25}$	0.52	60%
C. $\frac{8}{10}$	0.8	52%



VF

9b. Match the fractions to the equivalent decimal and percentage.

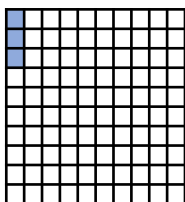
A. $\frac{40}{50}$	0.4	80%
B. $\frac{4}{10}$	0.04	40%
C. $\frac{4}{100}$	0.8	4%



VF

10a. Circle the odd one out.

30%



$\frac{6}{20}$

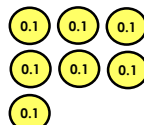
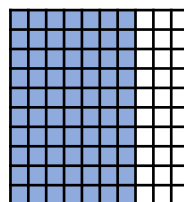
0.3



VF

10b. Circle the odd one out.

35%



$\frac{35}{50}$

0.7



VF

11a. True or false?

0.35 is equivalent to 35%



VF

11b. True or false?

72% is equivalent to  $\frac{36}{50}$



VF

12a. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A.  $\frac{9}{25} = \square = \square$

B.  $\frac{\square}{50} = 0.94 = \square$

C.  $\frac{\square}{20} = \square = 75\%$



VF

12b. Fill in the missing boxes to show the equivalent fraction, decimal or percentage.

A.  $\frac{\square}{200} = \square = 62\%$

B.  $\frac{\square}{50} = 0.54 = \square$

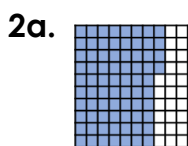
C.  $\frac{14}{20} = \square = \square$



VF

Developing

1a.  $A = 0.18 = 18\%$ ,  $B = 0.81 = 81\%$ ,  $C = 0.08 = 8\%$



3a. False, the correct answer is 0.32

4a.  $A = \frac{83}{100}$ ,  $B = 64\%$ ,  $C = 0.72$

Expected

5a.  $A = 0.12 = 12\%$ ,  $B = 0.65 = 65\%$ ,  $C = 0.42 = 42\%$

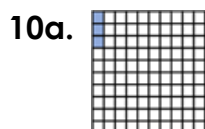
6a.  $\frac{63}{300}$

7a. False, the correct answer is 0.75

8a.  $A = 0.32$ ,  $B = \frac{24}{100}$  (or equivalent fraction),  $C = 36\%$

Greater Depth

9a.  $A = 0.52 = 52\%$ ,  $B = 0.6 = 60\%$ ,  $C = 0.8 = 80\%$



11a. True

12a.  $A = 0.36 = 36\%$ ,  $B = \frac{47}{50} = 94\%$ ,  $C = \frac{15}{20} = 0.75$

Developing

1b.  $A = 0.25 = 25\%$ ,  $B = 0.05 = 5\%$ ,  $C = 0.5 = 50\%$



3b. True

4b.  $A = 24\%$ ,  $B = 0.32$ ,  $C = \frac{65}{100}$

Expected

5b.  $A = 0.57 = 57\%$ ,  $B = 0.11 = 11\%$ ,  $C = 0.34 = 34\%$

6b. 3.4

7b. True

8b.  $A = \frac{52}{100}$  (or equivalent fraction),  $B = 0.41$ ,  $C = 22\%$

Greater Depth

9b.  $A = 0.8 = 80\%$ ,  $B = 0.4 = 40\%$ ,  $C = 0.04 = 4\%$

10b. 35%

11b. True

12b.  $A = \frac{124}{200} = 0.62$ ,  $B = \frac{27}{50} = 54\%$ ,  $C = 0.7 = 70\%$