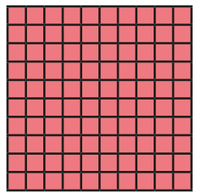
Convert between decimals and percentages greater than 100%

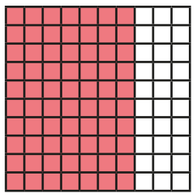
1 Each hundred square represents 100%.



= 100%

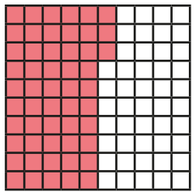
Write the percentages represented by the diagrams.

a)



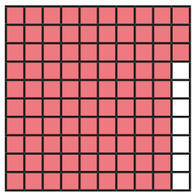
70 %

b)



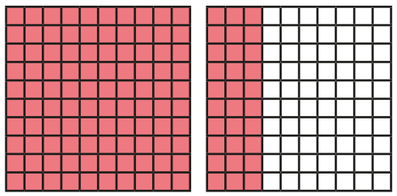
53 %

c)



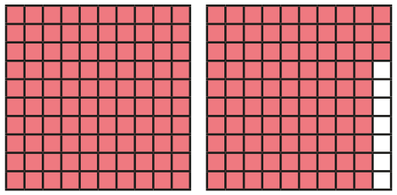
93 %

d)



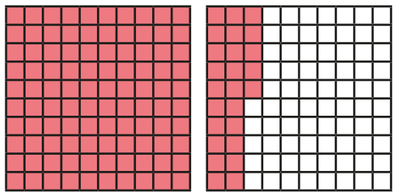
130 %

e)



193 %

f)



125 %

2 Complete the tables.

Percentage	Decimal
80%	0.8
90%	0·9
100%	1
110%	1·1
120%	1.2

Percentage	Decimal
98%	0.98
99%	0·99
100%	1
101%	1.01
102%	1·02

3 **a)** Convert the percentages to decimals.

84%	94%	104%	114%
0·84	0·94	1·04	1·14
126%	116%	106%	96%
1·26	1·16	1·06	0·96

b) Convert the decimals to percentages.

0.75	0.85	0.95	1.05
75 %	85 %	95 %	105 %
0.38	1.38	2.38	0.08
38 %	138 %	238 %	8 %

4 Write the percentages represented by the bar models.

a) 100% 20% — 120 %

b) 100% 30% — 130 %

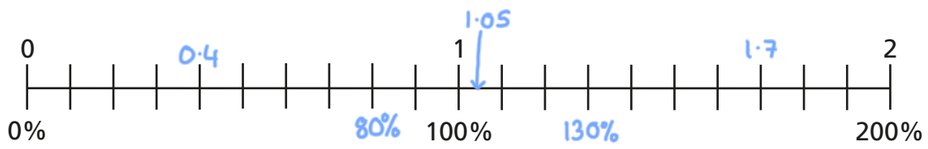
c) 100% 41% — 141 %

d) 100% 100% 20% — 220 %

e) 100% 100% 100% 40% — 340 %

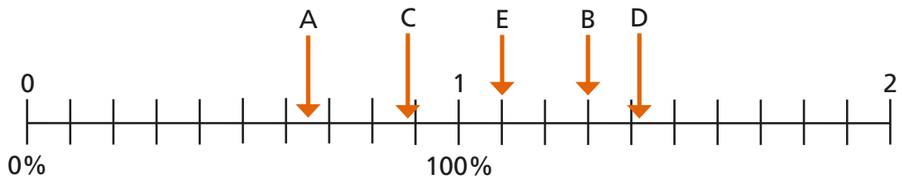
5 **a)** Label the positions of the numbers on the number line.

80% 0.4 1.7 130% 1.05



b) Write the numbers indicated by the arrows.

Give your answers as decimals and percentages.



A	decimal	0·65		percentage	65 %
B	decimal	1·3		percentage	130 %
C	decimal	0·88	(approx)	percentage	88 %
D	decimal	1·42	(approx)	percentage	142 %
E	decimal	1·1		percentage	110 %

6 Sort the cards into three groups of equivalent numbers.

103% | $\frac{13}{10}$ | 0.7 | 30% less than 1 whole | 1.03 | 3% more than 1 whole | $\frac{130}{100}$ | 30% more than 1 whole | 1 – 0.3 | $\frac{103}{100}$ | 130% | 1 + 0.03 | 70%

Group 1	Group 2	Group 3
103%	$\frac{13}{10}$	0·7
3% more than 1 whole	$\frac{130}{100}$	30% less than one whole
1+0·03	130%	1 − 0·3
1·03	30% more than one whole	70%
$\frac{103}{100}$		

7 Tick the statements that are possible. Explain your answers.

a) Giving 110% effort ☐

Maximum effort would be 100%

b) Increasing a test score by 110% ☑

If you scored 10 out of 100, you could gain an extra 11 marks next time.

c) Decreasing a test score by 110% ☐

You would end up with a negative score.