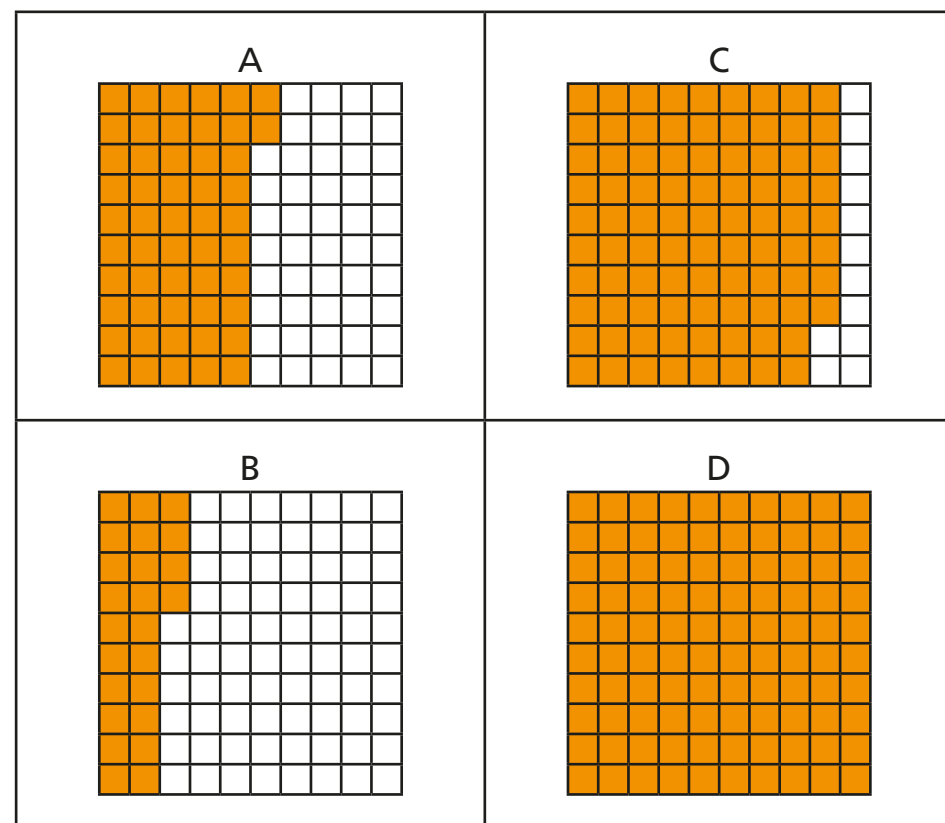


# Percentages as fractions and decimals

1 Here are four hundred squares.

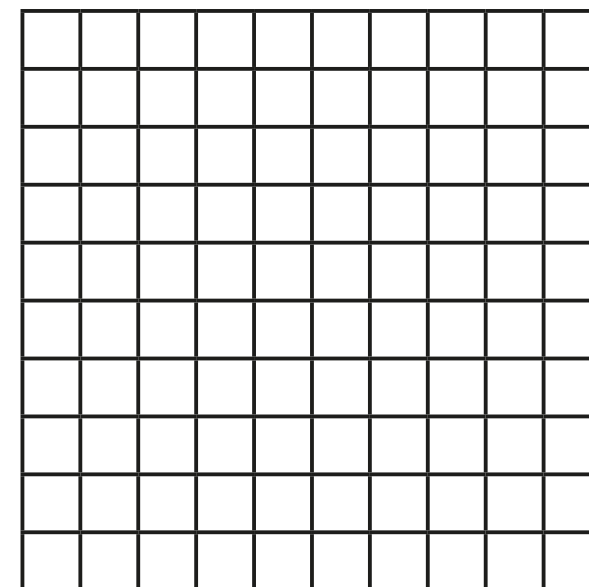


Complete the table.

Hundred square	Percentage	Fraction	Decimal
A		$\frac{52}{100}$	
B			
C			
D			

2 Prove that 0.2 is equal to 20%.

You may use the hundred square to help you.




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Why do you think some people think that 0.2 is equal to 2%?

3 Complete the fraction, decimal and percentage equivalents.

a)  $32\% = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}$

$35\% = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}$

$48\% = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}$

c)  $0.29 = \boxed{\phantom{00}}\% = \frac{\boxed{\phantom{00}}}{100}$

$0.71 = \boxed{\phantom{00}}\% = \frac{\boxed{\phantom{00}}}{100}$

$0.03 = \boxed{\phantom{00}}\% = \frac{\boxed{\phantom{00}}}{100}$

b)  $\frac{17}{100} = \boxed{\phantom{00}}\% = \boxed{\phantom{00}}$

$\frac{9}{100} = \boxed{\phantom{00}}\% = \boxed{\phantom{00}}$

$\frac{90}{100} = \boxed{\phantom{00}}\% = \boxed{\phantom{00}}$

4 Write <, > or = to complete the statements.

- a) 50%  $\bigcirc$   $\frac{5}{100}$       d)  $\frac{40}{100}$   $\bigcirc$  40%
- b) 25%  $\bigcirc$   $\frac{50}{100}$       e)  $\frac{70}{100}$   $\bigcirc$  7%
- c) 14%  $\bigcirc$   $\frac{41}{100}$       f) 82%  $\bigcirc$   $\frac{82}{100}$

5 Write the values in order from smallest to greatest.

- a) 33%     $\frac{30}{100}$     3%     $\frac{13}{100}$   
3%,  $\frac{13}{100}$ ,  $\frac{30}{100}$ , 33%
- b) 299%     $\frac{91}{100}$     9%     $\frac{9}{10}$   
9%,  $\frac{9}{10}$ ,  $\frac{91}{100}$ , 299%
- c) 2.5     $\frac{25}{100}$     250    25% of 100     $\frac{25}{1000}$   
 $\frac{25}{1000}$ ,  $\frac{25}{100}$ , 25% of 100, 2.5, 250

6 Convert the fractions to hundredths.

Complete the decimal and percentage equivalents.

- a)  $\frac{150}{300} = \frac{50}{100} = 0.5 = 50\%$
- b)  $\frac{25}{500} = \frac{5}{100} = 0.05 = 5\%$
- c)  $\frac{48}{300} = \frac{16}{100} = 0.16 = 16\%$

- d)  $\frac{18}{50} = \frac{36}{100} = 0.36 = 36\%$
- e)  $\frac{13}{25} = \frac{52}{100} = 0.52 = 52\%$

7 Circle all the fractions that are greater than or equal to 50%.

$\frac{10}{50}$	$\frac{4}{5}$	$\frac{50}{100}$
$\frac{30}{80}$	$\frac{1}{50}$	$\frac{70}{140}$

8 Jack and Dora go shopping with the same amount of money.

Jack spends  $\frac{1}{3}$  of his money.

Dora spends 30% of her money.

a) Who spends more money? Jack

Use fraction and percentage equivalence to explain your answer.

$$\frac{1}{3} = \frac{10}{30}$$

$$30\% = \frac{3}{10} = \frac{9}{30}$$

b) Jack and Dora each started with £300

How much money do they each have left?

Jack £200      Dora £210