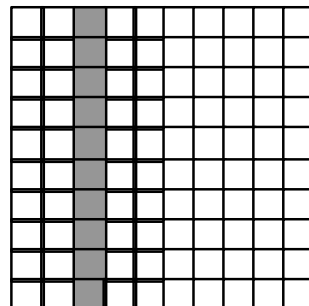


# Find 10%

Look at the grid. 10 of the 100 squares are grey.

This is a **tenth** of the grid

$$10\% = 10 \text{ out of } 100 = \frac{10}{100} = \frac{1}{10}$$



**To find 10% of something, divide it by 10**

*Examples:*

Amount	10% is:
£80	£8
£3400	£340
£75 000	£7500

Amount	10% is:
£9	£0.90
£65	£6.50
£236	£23.60

Amount	10% is:
£7.50	£0.75
£29.40	£2.94
£158.90	£15.89

• **Complete these:**

Amount	10% is:
£20	
£30	
£50	
£80	
£600	
£800	
£490	
£6800	
£9100	
£80 000	
£56 000	
£26 570	
£149 500	

Amount	10% is:
£2	
£6	
£8	
£17	
£31	
£29	
£175	
£432	
£943	
£2745	
£7838	
£3392	
£24 576	

Amount	10% is:
£6.90	
£3.80	
£1.70	
£15.40	
£94.60	
£83.50	
£176.80	
£367.90	
£290.30	
£2146.50	
£9894.10	
£15 832.20	
£90 807.80	



# Find 20%, 30%...

To find 20% of something, find 10% (by dividing by 10) then multiply by 2.



*Examples:*

Amount	10% is:	20% is:
£40	£4	£8
£12	£1.20	£2.40
£3.50	£0.35	£0.70
£59.90	£5.99	£11.98

Rough work

$$\begin{array}{r}
 5 \cdot 9 \cdot 9 \\
 \phantom{5 \cdot 9 \cdot 9} 2 \\
 \hline
 1 \phantom{1} \cdot 9 \phantom{8} \\
 1 \phantom{1} \phantom{1} \\
 \hline
 \phantom{1} \phantom{1} \phantom{1} \phantom{1}
 \end{array}$$

- Complete the following. Do rough work on a separate piece of paper.

Amount	10% is:	20% is:
£20		
£70		
£920		
£24		
£56		
£625		

Amount	10% is:	20% is:
£3.20		
£4.90		
£9.70		
£12.50		
£35.40		
£136.90		

To find 30% of something, find 10% then multiply by 3.



*Examples:*

Amount	10% is:	30% is:
£10	£1	£3
£42	£4.20	£12.60
£2.50	£0.25	£0.75
£62.80	£6.28	£18.84

Rough work

$$\begin{array}{r}
 6 \cdot 2 \cdot 8 \\
 \phantom{6 \cdot 2 \cdot 8} 3 \\
 \hline
 1 \phantom{1} \cdot 8 \phantom{8} \phantom{4} \\
 \phantom{1 \phantom{1} \cdot 8 \phantom{8} \phantom{4}} 2 \\
 \hline
 \phantom{1} \phantom{1} \phantom{1} \phantom{1}
 \end{array}$$



- Complete the following. Do rough work on a separate piece of paper.

Amount	10% is:	30% is:
£50		
£80		
£230		
£11		
£62		
£175		

Amount	10% is:	30% is:
£1.50		
£6.10		
£8.30		
£24.60		
£58.20		
£272.40		

Other percentages can be found in the same way.

For example, to find 60% of something, find 10% then multiply by 6

*Example*

To find 60% of £235  
 10% of £235 = £23.50  
 60% of £235 = **£141**

**Rough work**

$$\begin{array}{r}
 23.50 \\
 \times 6 \\
 \hline
 141.00 \\
 235.00 \\
 \hline
 141.00
 \end{array}$$

- Complete the following. Do rough work on a separate piece of paper.

Amount	10% is:	60% is:
£70		
£54		
£98.50		

Amount	10% is:	80% is:
£40		
£15		
£48.90		

To find 5% of something, find 10% then divide by 2.



*Examples:*

Amount	10% is:	5% is:
£60	£6	£3
£48	£4.80	£2.40
£2.60	£0.26	£0.13
£73.80	£7.38	£3.69

**Rough work**

$$\begin{array}{r}
 3.69 \\
 2 \overline{) 7.38} \\
 \underline{6} \phantom{0} \\
 13 \phantom{0} \\
 \underline{14} \phantom{0} \\
 18 \\
 \underline{18} \\
 0
 \end{array}$$

- Complete the following. Do rough work on a separate piece of paper.

Amount	10% is:	5% is:
£80		
£30		
£260		
£64		
£195		

Amount	10% is:	5% is:
£8.60		
£7.40		
£11.20		
£29.40		
£246.50		



# Find % on a Spreadsheet

- Open the spreadsheet and **left click on cell B5.**

The formula in cell B5 is **=10%\*A5**

The formula:

**=10%\*A5**

tells the spreadsheet to work out 10% of the amount in cell A5.

Find 10%		
Amount	10% of it	Amount
88	8.8	88
83.48	8.348	83.48
875.00	87.50	875.00

- Now **left click on some of the other yellow cells** and look at the formulae they contain.

- **Left click on cell B16** then type in a formula that will work out 10% of the amount in cell A16.
- **Complete all of the 10% cells in rows 16, 17 and 18.**

There is a much quicker way to complete the rest of the 10% columns.

Try these	
Amount	10% of it
£20	
£30	
£50	
£80	
£600	
£800	£80
£400	

**'fill down' square**

- **Left click on cell B16** and look for the little black 'fill down' square at the bottom of the right-hand side.
- Move the mouse until the cursor (cross) is on this square then **left click** and **at the same time drag the mouse** so that the cursor moves down to the bottom of the column. Then release the mouse button - you should find that all the 10% cells below row 16 are completed.
- Left click on the fill down square in cell B16 again, but this time drag the mouse so that the cursor moves up to the top of the column. This time all the 10% cells above row 16 will be completed.
- Use this method to **complete the rest of the 10% spreadsheet.**
- **Print out your results.**



- Left click on ‘Other %’ at the bottom of the worksheet.

The screenshot shows a spreadsheet with the following content:

FIND 20%			FIND 30%		
Examples			Examples		
Amount	20% is:		Amount	30% is:	
£40	£8.00		£10	£3.00	
£12	£2.40		£40	£12.00	
£3.50	£0.70		£2.50	£0.75	
£59.90	£11.98		£62.80	£18.84	
Try these			Try these		
Amount	20% is:		Amount	30% is:	
£20		£3.20	£50		£15.00
£70		£14.00	£80		£24.00
£900		£180.00	£200		£60.00
£24		£4.80	£11		£3.30
£56		£11.20	£62		£18.60
£62.5		£12.50	£175		£52.50
FIND 60%			FIND 80%		
Try these			Try these		
Amount	60% is:		Amount	80% is:	
£70		£42.00	£40		£32.00
£54		£32.40	£30		£24.00
£89.50		£53.70	£260		£208.00
			£64		£51.20
			£195		£156.00
FIND 5%			FIND 5%		
Try these			Try these		
Amount	5% is:		Amount	5% is:	
£30		£1.50	£30		£1.50
£70		£3.50	£70		£3.50
£200		£10.00	£200		£10.00
£64		£3.20	£64		£3.20
£195		£9.75	£195		£9.75

### Find 20%

- Left click on the yellow cell B5 and look at the formula in it.
- Also look at the formulae in the other yellow cells in this column (B6, B7 and B8).
- Left click on B12 and enter a formula to find 20% of the amount in cell A12. Then use ‘fill down’ to complete this 20% table.
- Left click on E12 and enter a formula to find 20% of the amount in cell D12. Then use ‘fill down’ to complete this 20% table.

### Find 30%

- Look at the formulae in the yellow cells I5, I6, I7 and I8.
- Left click on I12 and enter a formula to find 30% of the amount in cell H12. Then use ‘fill down’ to complete this 30% table.
- Complete the other 30% table in the same way.

### Find 60%, 80% and 5%

- Use spreadsheet formulae and ‘fill down’ to complete the rest of the tables.
- Print out your results.



<b>Teacher Notes</b>
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Units Foundation Level, Managing money

**Skills used in this activity:**

- finding easy percentages such as 10%, 20%, 30%,... without a calculator
- using spreadsheet formulae and 'fill down' to find percentages

**Preparation**

Each student will need:

- a copy of the worksheets
- to know how to divide amounts of money by 10, how to divide by 2 and how to multiply by one digit whole numbers
- to know how to use spreadsheet formulae
- access to the accompanying spreadsheet

**Notes**

The activity can be split into sections by separating the worksheets covering 10% from those for finding more difficult percentages, or by separating the work done by hand from the work done on a spreadsheet.

It is recommended that you remind students how to divide by 10 before they start this activity.

**Answers**

**FIND 10%**

Amount	10% of it
£20	£2
£30	£3
£50	£5
£80	£8
£600	£60
£800	£80
£490	£49
£6,800	£680
£9,100	£910
£80,000	£8,000
£56,000	£5,600
£26,570	£2,657
£149,500	£14,950

Amount	10% of it
£2	£0.20
£6	£0.60
£8	£0.80
£17	£1.70
£31	£3.10
£29	£2.90
£175	£17.50
£432	£43.20
£943	£94.30
£2,745	£274.50
£7,838	£783.80
£3,392	£339.20
£24,576	£2,457.60

Amount	10% of it
£6.90	£0.69
£3.80	£0.38
£1.70	£0.17
£15.40	£1.54
£94.60	£9.46
£83.50	£8.35
£176.80	£17.68
£367.90	£36.79
£290.30	£29.03
£2,146.50	£214.65
£9,894.10	£989.41
£15,832.20	£1,583.22
£90,807.80	£9,080.78



**FIND 20%**

Amount	20% is:
£20	£4.00
£70	£14.00
£920	£184.00
£24	£4.80
£56	£11.20
£625	£125.00

**FIND 20%**

Amount	20% is:
£3.20	£0.64
£4.90	£0.98
£9.70	£1.94
£12.50	£2.50
£35.40	£7.08
£136.90	£27.38

**FIND 30%**

Amount	30% is:
£50	£15.00
£80	£24.00
£230	£69.00
£11	£3.30
£62	£18.60
£175	£52.50

**FIND 30%**

Amount	30% is:
£1.50	£0.45
£6.10	£1.83
£8.30	£2.49
£24.60	£7.38
£58.20	£17.46
£272.40	£81.72

**FIND 60%**

Amount	60% is:
£70	£42.00
£54	£32.40
£98.50	£59.10

**FIND 80%**

Amount	80% is:
£40	£32.00
£15	£12.00
£48.90	£39.12

**FIND 5%**

Amount	5% is:
£80	£4.00
£30	£1.50
£260	£13.00
£64	£3.20
£195	£9.75

**FIND 5%**

Amount	5% is:
£8.60	£0.43
£7.40	£0.37
£11.20	£0.56
£29.40	£1.47
£246.50	£12.33

