

Worksheet 5

Fractions, decimals and percentages

Convert between Fractions, Decimals and %

Each row shows the same quantity written as a fraction or a decimal or a percentage. Fill in the missing values. We will mark the table in class next week.

Fraction	Decimal	Percentage
$\frac{2}{5}$		
	0.75	
		35%
	0.8	
$1\frac{1}{4}$		
	0.375	
		50%
	2.5	
		325%
$\frac{7}{8}$		
	0.65	
$\frac{2}{3}$		

Percentage increase and decrease

Complete the table below...

...We will mark the table in class on the whiteboard.

Do calculations on some separate paper and have them with you just in case there is a systematic issue to sort out

Qu	Amount	Increase/decrease	New amount
1)	50p	“Surcharge 10%”	
2)	£270.00	“15% off all prices today”	
3)	£15 000	“1% pay rise”	
4)	£300.00	“30% off this week”	
5)	4 500	“Visitor numbers increased by 5%”	
6)	£4.40	“5% increase in price of all day ticket starts today”	
7)	£7.60	“3% increase in hourly rate”	
8)	£120.00	“65% off for just in time booking”	
*9)	50p		55p
*10)	?	Increase by 20%	£240

- 11) Freda earns £14 500.
She is awarded a 10% pay rise when she qualifies
Calculate her new salary
- 12) Algernon is comparing the cost of couches...
Shop A: “One third off all prices”. Normal price is £450
Shop B: “20% off today”: Normal price is £360
Which shop is cheaper for Algernon's new couch?

Write one number as a percentage of another

Complete the table below – again show methods on separate paper and we will mark these on the whiteboard next week.

Qu	Whole	Part	Part as percentage of whole
1)	60	15	
2)	£45	£18	
3)	£3.60	£2.70	
4)	£7.50	£3.00	
5)	500 ml	25 ml	
6)	500g	300g	
*7)	£160	£20	
*8)			

Percentage increase and decrease

Complete the table below and we'll mark it next week.

Qu	Before	After	Percentage increase/decrease
1)	50p	56p	
2)	£45	£60	
3)	£800	£600	
4)	25 mm	26 mm	
5)	£20	£15	
6)	12 cm	9 cm	
*7)	50	62.5	
*8)	£15	£20	

Mixed percentage questions

Answer these questions on separate paper.

They are mixed up – see if you can recognise from the wording what each question is asking you to work out.

- 1) Michael is setting up a new cafe.
The espresso machine costs £800 + VAT at 20%.
Calculate the total cost of the espresso machine
- 2) Nusut buys a house for £150 000 in 2017.
In 2020 the house is valued at 10% more than its value in 2017
In 2024, the house is valued at 10% less than its value in 2020.
Calculate the value of the house in 2024.
- 3) 4% of men have some form of colour blindness.
0.5% of women are colour blind.
A college has 4 500 women students and 3 800 students are men
Calculate an estimate for the total number of colour blind students in the college
- 4) A postage stamp increases in price from 60p to 72p.
Work out the percentage increase
- 5) Naomi buys a box of 48 mangos for £18 at the wholesale market.
Three of the mangoes are badly blemished and cannot be sold.
She needs to make a profit of 100% on the mangoes.
What price should Naomi charge for each remaining mango on her market stall?
- 6) A school has a target of 97% attendance.
The school has 1 400 pupils
On Tuesday, 43 pupils are absent.
Did the school reach the attendance target on that day?
You must show a calculation to support your answer.
- 7) Write 15 as a percentage of 75
- 8) Work out 2.5% of £85 using a non-calculator method