Percentages

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Worked example	Your turn
Write as a percentage: 0.4 0.35 0.89	Write as a percentage: 0.83 83%

Worked example	Your turn
Write as a percentage: 1.2 2.1 3.21	Write as a percentage: 4.32 432%

Worked example	Your turn
Write as a decimal: 50% 25% 20%	Write as a decimal: 10% 0.1

Worked example	Your turn
Write as a decimal:	Write as a decimal:
20%	70%
	0.7
30%	
90%	

Worked example	Your turn
Write as a decimal: 29% 31% 89%	Write as a decimal: 83% 0.83

Worked example	Your turn
Write as a decimal:	Write as a decimal:
129%	483%
	4.83
231%	
389%	

Worked example	Your turn
Write as a simplified fraction: 50% 25% 20%	Write as a simplified fraction: 10% $\frac{1}{10}$

Worked example	Your turn
Write as a simplified fraction: 24% 48% 72%	Write as a simplified fraction: 96% $\frac{24}{25}$

Worked example	Your turn
Write as a simplified fraction: 124% 248% 372%	Write as a simplified fraction: 496% $\frac{124}{25}$

Worked example	Your turn
Express as a percentage: 360 out of 1000	Express as a percentage: 720 out of 1000 72%
360 out of 500	
36 out of 500	

Worked example	Your turn
If 100% is 360:	If 100% is 720:
50% is	50% is 360
25% is	25% is 180
10% is	10% is 72
1% is	1% is 7.2

Worked example	Your turn
If 100% is 360:	If 100% is 720:
75% is	75% is 540
20% is	20% is 144
5% is	5% is 36

Worked example	Your turn
If 100% is 360:	If 100% is 720:
200% is	700% is 5040
300% is	
1000% is	

Worked example	Your turn
If 100% is 360:	If 100% is 720:
85% is	65% is 468

Worked example	Your turn
If 100% is 360:	If 100% is 720:
35% is	35% is 252

Worked example	Your turn
If 100% is 360:	If 100% is 720:
31% is	77% is 554.4
68%	

Worked example	Your turn
If 100% is 360:	If 100% is 720:
31.4% is	31.4% is 226.08

Worked example	Your turn
If 100% is 360:	If 100% is 720:
31.4% is	77.3% is 556.56
68.7%	

Worked example	Your turn
Increase:	Increase:
300 by 20%	288 by 25%
	360
300 by 45%	

Worked example	Your turn
Increase:	Increase:
300 by 23%	200 by 87%
	374
300 by 78%	

Worked example	Your turn
Increase:	Increase:
300 by 123%	200 by 187%
	574
300 by 278%	

Worked example	Your turn
Decrease: 300 by 20% 300 by 45%	Decrease: 288 by 25% 216

Worked example	Your turn
Decrease: 300 by 23% 300 by 78%	Decrease: 200 by 87% 26

Worked example	Your turn
Express as a percentage: 6 out of 50 3 out of 25 18 out of 40	Express as a percentage: 27 out of 30 90%

Worked example	Your turn
Express as a percentage the increase from: 20 to 30	Express as a percentage the increase from: 30 to 45 50%
20 to 25	
20 to 40	

Worked example	Your turn
Express as a percentage the increase from: 20 to 35 20 to 28 20 to 44	Express as a percentage the increase from: 30 to 72 140%

Worked example	Your turn
Express as a percentage the decrease from: 20 to 10 20 to 5 20 to 15	Express as a percentage the decrease from: 30 to 15 50%

Worked example	Your turn
Express as a percentage the decrease from: 20 to 19 20 to 1 20 to 7	Express as a percentage the decrease from: 30 to 12 60%

Worked example	Your turn
Express as a percentage the decrease from: 20 to 19.5 20 to 3.5	Express as a percentage the decrease from: 30 to 26.4 12%

Worked example	Your turn
A person invests £400 at 5% compound interest per annum. How much is in their bank account after 3 years?	A person invests £400 at 3% compound interest per annum. How much is in their bank account after 5 years? £463.71

Worked example	Your turn
A person invests £400 at 5% compound interest per annum. How much interest has been earned after three years?	A person invests £400 at 3% compound interest per annum. How much interest has been earned after 5 years? £63.71

Worked example	Your turn
A person invests £400 at $x\%$ compound interest per annum. After 3 years they have £463.05 Find the value of x	A person invests £400 at $x\%$ compound interest per annum. After 3 years they have £476.40 Find the value of x $x = 6$

Worked example	Your turn
A person invests £x at 5% compound interest per annum. After 3 years they have £463.05 Find the value of x	A person invests £x at 6% compound interest per annum. After 3 years they have £476.40 Find the value of x $x = 400$

Worked example	Your turn
A person invests £400 at 5% compound interest per annum. After x years they have £463.05 Find the value of x	A person invests £400 at 6% compound interest per annum. After x years they have £476.40 Find the value of x $x = 3$

Worked example	Your turn
A car is bought for £1000. Its value decreases by 5% every year. How much is the car worth after three years?	A car is bought for £1000. Its value decreases by 3% every year. How much is the car worth after five years? £858.73

Worked example	Your turn
A car is bought for £1000. Its value decreases by $x\%$ every year. After three years the car is worth £857.38. Find the value of x	A car is bought for £1000. Its value decreases by $x\%$ every year. After three years the car is worth £912.67. Find the value of x $x = 3$

Worked example	Your turn
A car is bought for £x. Its value decreases by 5% every year. After three years the car is worth £857.38. Find the value of x	A car is bought for £x. Its value decreases by 3% every year. After three years the car is worth £912.67. Find the value of x $x = 1000$

Worked example	Your turn
A car is bought for £1000. Its value decreases by 5% every year. After x years the car is worth £857.38. Find the value of x	A car is bought for £1000. Its value decreases by 3% every year. After x years the car is worth £912.67. Find the value of x $x = 3$

Worked example	Your turn
A person invests £400 in a savings account for three years. The interest earned is: - 3% for the first year - 2.5% for all subsequent years How much is in their bank account after 3 years?	A person invests £400 in a savings account for three years. The interest earned is: - 3.5% for the first year - 2% for all subsequent years How much is in their bank account after 3 years? £430.73

Worked example	Your turn
Person A invests a sum of money. The account pays 5% compound interest per annum. After how many years will A have: Doubled their investment? Trebled their investment?	Person A invests a sum of money. The account pays 6% compound interest per annum. After how many years will A have: Trebled their investment? (as a whole number of years) 19

Worked example	Your turn
The area of B is 12% greater than the area of A. The area of C is 12% greater than the area of B. By what % is the area of C greater than the area of A?	The area of B is 10% greater than the area of A. The area of C is 10% greater than the area of B. By what % is the area of C greater than the area of A? 21%

Worked example	Your turn
What is x if: 50% of x is 40 10% of x is 40 1% of x is 40	What is x if: 25% of x is 40 160

Worked example	Your turn
What is x if: 20% of x is 40 80% of x is 40 16% of x is 40	What is x if: 8% of x is 40 500

Worked example	Your turn
What was the original price if: The price of an item is increased by 50% to £45. The price of an item is increased by 25% to £45	What was the original price if: The price of an item is increased by 20% to £48. £40

Worked example	Your turn
What was the original price if: The price of an item is increased by 50% to £45. The price of an item is increased by 25% to £45	What was the original price if: The price of an item is increased by 20% to £48. £40

Worked example	Your turn
What was the original price if: The price of an item is decreased by 50% to £60. The price of an item is decreased by 25% to £60	What was the original price if: The price of an item is decreased by 20% to £60. £75

Worked example	Your turn
What was the normal price if: The normal price of an item is reduced by 85% The normal price of an item is reduced by £42.50	What was the normal price if: The normal price of an item is reduced by 17% The normal price of an item is reduced by £42.50 £207.50

Worked example	Your turn
x is increased by 20% and then decreased by 25% The result is 45. Find x	x is increased by 35% and then decreased by 20% The result is 108. Find x $x = 100$