



# PERCENTAGE MULTIPLIERS

## Task 1

1) Write the multiplier for 38%  
= 0.38

2) Write the multiplier for 12%  
= 0.12

3) Write the multiplier for 85%  
= 0.85

4) Write the multiplier for 100%  
= 1

5) Write the multiplier for 60%  
= 0.6

6) Write the multiplier for 25%  
= 0.25

7) Write the multiplier for 75%  
= 0.75

8) Write the multiplier for 5%  
= 0.05

9) Write the multiplier for 10%  
= 0.1

10) Write the multiplier for 20%  
= 0.2

11) Write the multiplier for 99%  
= 0.99

12) Write the multiplier for 1%  
= 0.01

13) Write the multiplier for 11.5%  
= 0.115

14) Write the multiplier for 2.5%  
= 0.025

15) Write the multiplier for 3.25%  
= 0.0325

## Task 2

16) Work out the multiplier to increase by 15%  
= 1.15

17) Work out the multiplier to increase by 20%  
= 1.2

18) Work out the multiplier to increase by 50%  
= 1.50

19) Work out the multiplier to increase by 5%  
= 1.05

20) Work out the multiplier to increase by 80%  
= 1.8

21) Work out the multiplier to increase by 2%  
= 1.02

22) Work out the multiplier to increase by 67%  
= 1.67

23) Work out the multiplier to increase by 100%  
= 2

24) Work out the multiplier to increase by 0.5%  
= 1.005

25) Work out the multiplier to increase by 33%  
= 1.33

26) Work out the multiplier to increase by 60%  
= 1.6

27) Work out the multiplier to increase by 1.5%  
= 1.015

28) Work out the multiplier to increase by 200%  
= 3

29) Work out the multiplier to increase by 13.5%  
= 1.135

30) Work out the multiplier to increase by 0.75%  
= 1.0075

### Task 3

31) Work out the multiplier to decrease by 15%  
= 0.85

32) Work out the multiplier to decrease by 25%  
= 0.75

33) Work out the multiplier to decrease by 40%  
= 0.6

34) Work out the multiplier to decrease by 60%  
= 0.4

35) Work out the multiplier to decrease by 10%  
= 0.9

36) Work out the multiplier to decrease by 46%  
= 0.54

37) Work out the multiplier to decrease by 5%  
= 0.95

38) Work out the multiplier to decrease by 1%  
= 0.99

39) Work out the multiplier to decrease by 0.5%  
= 0.995

40) Work out the multiplier to decrease by 33%  
= 0.67

41) Work out the multiplier to decrease by 70%  
= 0.3

42) Work out the multiplier to decrease by 90%  
= 0.1

43) Work out the multiplier to decrease by 21.5%  
= 0.785

44) Work out the multiplier to decrease by 4.35%  
= 0.9565

45) Work out the multiplier to decrease by 100%  
= 0

### Task 4

46) A coat costs £80. The cost is reduced by 25%.  
What is the sale price?  
 $80 \times 0.75 = 60$   
£60

47) A bike costs £300. The price increases by 10%. What is the new price?  
 $300 \times 1.10 = 330$   
£330

48) A TV costs £500. The cost is reduced by 15%.  
What is the new price?  
 $500 \times 0.85 = 425$   
£425

49) A computer costs £900. The price increases by 20%. What is the new price?  
 $900 \times 1.20 = 1080$   
£1080

50) A bag was £40. It is reduced by 10%, then another 20%. What is the final price?  
 $40 \times 0.90 = 36$   
 $36 \times 0.80 = 28.8$   
£28.80

51) A phone costs £600. A 25% discount is applied, then 5% VAT is added to the discounted price. What is the final price?  
 $600 \times 0.75 = 450$   
 $450 \times 1.05 = 472.5$   
£472.50

52) A sofa costs £1000. It goes up by 15%, then down by 10%. What is the final price?  
 $1000 \times 1.15 = 1150$   
 $1150 \times 0.90 = 1035$   
£1035

53) A concert ticket costs £50. There's a 20% discount for students. A 10% booking fee is then added to the discounted price. What is the final ticket price for a student?  
 $50 \times 0.80 = 40$   
 $40 \times 1.10 = 44$   
£44

54) A holiday package is £1200. The package increases by 5%, then decreases by 10%. What is the final price of the holiday package?

$$1200 \times 1.05 = 1260$$

$$1260 \times 0.90 = 1134$$

**£1134**

55) A printer costs £250. The cost is reduced by 12%, and a £20 voucher is then applied to the discounted price. What is the final price of the printer?

$$250 \times 0.88 = 220$$

$$220 - 20 = 200$$

**£200**

### Challenge

56) A product price is increased by 10%, then decreased by 10%. Is the final price the same as the original? Justify your answer.

$$1 \times 1.10 = 1.1$$

$$1.1 \times 0.9 = 0.99$$

**No, it is less than the original price**

57) A company makes £50,000 in revenue. Costs rise by 8%, and profits fall by 12%. If the original profit was 30% of revenue, what is the new profit?

$$\text{Original profit} = 50000 \times 0.30 = 15000$$

$$\text{New profit} = 15000 \times 0.88 = 13200$$

**£13,200**

58) A £2000 investment grows by 12% in year one, 10% in year two, and  $x\%$  in year three. If the total value after three years is £2661.12, work out the value of  $x$ .

$$2000 \times 1.12 = 2240$$

$$2240 \times 1.10 = 2464$$

$$2661.12 - 2464 = 197.12$$

$$\frac{197.12}{2464} \times 100 = 8\%$$

**8%**