

# Summer Term Maths Year 10

## Calculating percentage change

Day  
**1**

Week 6

**1** Convert these percentages to decimals.

(a) 20%      (b) 2%      (c) 120%

(d) 0.5%      (e) 160%      (f) 85%

**2** Write the decimal multiplier you would use to find the increases and decreases.

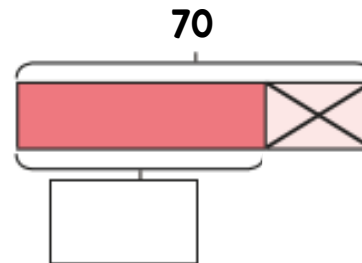
(a) Increase by 5%      (b) Increase by 90%

(c) Decrease by 35%      (d) Increase by 1.5%

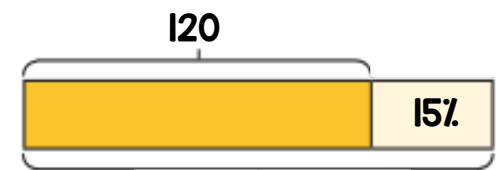
(e) Decrease by 12%      (f) Decrease by 4.5%

**3** Complete each bar model and work out the answers.

Decrease 70 by 20%



Increase 120 by 15%



**4** Complete these questions by drawing your own bar models.

Decrease 64 by 30%

Increase 80 by 25%

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**5** Tom and Nijah are increasing 60 by 30%.

Tom's method

$$10\% \text{ of } 60 = 6$$

$$\text{So } 30\% \text{ of } 60 = 3 \times 6 = 18$$

$$\text{So the answer is } 60 + 18 = 78$$

Nijah's method

$$100\% + 30\% = 130\%$$

$$130\% \text{ is the same as } 1.3$$

$$\text{So the answer is } 60 \times 1.3 = 78$$

**(a)** Which method do you prefer? Why?

Use Nijah's method to complete the calculations.

**(b)** Increase 50 by 20%.

**(c)** Increase 50 by 75%.

**(d)** Decrease 30 by 15%.

**(e)** Increase 145 by 7%.

**(f)** Decrease 100 by 25%.

**(g)** Decrease 12 by 10.5%.

**(h)** Increase 8000 by 8.2%.

**6** Rosie gets a 15% pay rise at work. She currently earns £110 per day. How much will she earn after the pay rise?

**7** Mo wants to buy a TV. Shop A is selling the TV for £350 with 25% off. Shop B is selling the TV for £320 with 20% off. Which shop is selling the TV for a cheaper price?

**8** Jack thinks that if he reduces an amount by 20% and then increases the result by 20%, he will get his original amount.

Use some calculations to show that Jack is incorrect.