

GCSE Maths: Percentage increase and decrease (Higher): worksheet

GCSE Maths - Percentages - Higher - Lesson 5.4

Name: _____

Date: _____

Score: _____

24 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch05-percentages/higher/percentage-increase-and-decrease/

Exercise 5F Increase and decrease (non-calculator)

Non-calculator

1 Increase each amount by the percentage shown. Do not use a calculator.

(a) 80 by 10%

Answer:

(b) £150 by 20%

Answer:

(c) 240 by 5%

Answer:

(d) £60 by 25%

Answer:

(e) 400 by 30%

Answer:

(f) £35 by 40%

Answer:

2 Decrease each amount by the percentage shown. Do not use a calculator.

(a) £80 by 10%

Answer:

(b) 120 by 25%

Answer:

(c) £250 by 20%

Answer:

(d) 64 by 50%

Answer:

(e) £90 by 30%

Answer:

(f) 300 by 15%

Answer:

3 Write down the multiplier for each change.

(a) an increase of 10%

Answer:

(b) an increase of 4%

Answer:

(c) a decrease of 20%

Answer:

(d) a decrease of 3%

Answer:

(e) an increase of 35%

Answer:

(f) a decrease of 45%

Answer:

4 Each number is a multiplier. Write down the percentage increase or decrease it stands for.

(a) 1.2

Answer:

(b) 1.07

Answer:

(c) 0.9

Answer:

(d) 0.65

Answer:

(e) 1.5

Answer:

(f) 2

Answer:

5 A jacket costs £120. In a sale it is reduced by 30%. Work out the sale price.

Answer:

6 A train fare of £48 goes up by 5%. Work out the new fare.

Answer:

7 A plumber charges £60 plus VAT at 20%. Work out the total cost.

Answer:

8 In 2020 a village had 2,400 people. By 2025 the population had increased by 15%. How many people lived in the village in 2025?

Answer:

9 Mark says, "To increase a price by 8% you multiply it by 0.08." Explain why he is wrong. What should he multiply by?

Answer:

10 Work out the percentage change in each case.

(a) A price is doubled. What is the percentage increase?

Answer:

(b) A price is multiplied by 3. What is the percentage increase?

Answer:

(c) A price is halved. What is the percentage decrease?

Answer:

11 Work out each new amount. Do not use a calculator.

(a) Increase £800 by 12.5%

Answer:

(b) Decrease 560 by 7.5%

Answer:

(c) Increase £1,200 by 2.5%

Answer:

(d) Decrease 240 by 17.5%

Answer:

12 Show that increasing 60 by 50% gives the same answer as decreasing 150 by 40%.

Answer:

Exercise 5G Increase and decrease (calculator) Calculator allowed

1 Use a multiplier to work out each new amount.

(a) Increase £85 by 8%

Answer:

(b) Decrease £250 by 12%

Answer:

(c) Increase 640 by 3.5%

Answer:

(d) Decrease 3,400 by 17%

Answer:

(e) Increase 1,850 by 22%

Answer:

(f) Decrease 280 by 4.5%

Answer:

2 Work out each new amount. Give your answers to the nearest penny.

(a) Increase £249.99 by 15%

Answer:

(b) Decrease £64.50 by 12.5%

Answer:

(c) Increase £1,875 by 2.9%

Answer:

3 Increase each amount by the percentage shown. (Remember the multiplier can be more than 2.)

(a) 40 by 150%

Answer:

(b) £80 by 200%

Answer:

(c) 25 by 120%

Answer:

4 Ola earns £2,150 each month. Her pay is increased by 3%. Work out her new monthly pay.

Answer:

5 A laptop costs £650 before VAT. VAT is 20%. Work out the total cost.

Answer:

6 Chloe earns £11.50 an hour. Her pay is increased by 4%. Work out her new hourly pay.

Answer:

7 A car is worth £14,500 when new. In its first year its value falls by 18%. What is it worth after one year?

Answer:

8 The population of a city is 125,000. It increases by 2.4%. Work out the new population.

Answer:

9 A landlord increases the monthly rent of £720 by 6.5%. Work out the new rent.

Answer:

10 A £50 jumper is reduced by 20%. Liam says, "The sale price is £10, because 20% of 50 is 10." Explain his mistake and work out the correct sale price.

Answer:

11 Write down the multiplier for each change.

(a) an increase of 0.5%

Answer:

(b) a decrease of 0.5%

Answer:

(c) an increase of 12.5%

Answer:

(d) a decrease of 7.25%

Answer:

12 A shop raises all its prices by 10%. Mina says, "So a pair of shoes that cost £60 now costs £66." Is she right? Show your working.

Answer: