GCSE Maths: Reverse percentages: finding the original amount (Foundation): answers

GCSE Maths - Percentages - Foundation - Lesson 5.6

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at **websink.site/gcse/maths/ch05-percentages/foundation/reverse-percentages-finding-the-original-amount/**

Exercise 5J Reverse percentages (non-calculator) Non-calculator

1 Find the original amount in each case.

(a) After a 10% decrease: £45

Answer: £50

(b) After a 20% increase: £60

Answer: £50

(c) After a 25% decrease: £30

Answer: £40

(d) After a 50% increase: £45

Answer: £30

(e) After a 30% decrease: £35

Answer: £50

(f) After a 5% increase: 21 kg

Answer: 20 kg

2 Find the number in each case.

(a) 10% of a number is 7

Answer: 70

(b) 50% of a number is 14

Answer: 28

(c) 25% of a number is 9

Answer: 36

3 Work out the whole amount in each case.

(a) 10% is 8

Answer: 80

(b) 25% is 15

Answer: 60

(c) 20% is 30

Answer: 150

(d) 5% is 6

Answer: 120

(e) 40% is 18

Answer: 45

(f) 15% is 21

Answer: 140

4 After a 25% increase, a number is 50. What was the number before the increase?

Answer: 40

5 In a sale, trainers are reduced by 40%. The sale price is £54. What was the price before the sale?

Answer: £90

6 A garage bill is £180 including VAT at 20%. How much was the bill before VAT?

Answer: £150

7 The number of students in a school increased by 5% this year. There are now 1,260 students. How many were there last year?

Answer: 1,200

8 Aisha's hourly pay was increased by 5%. She now earns £12.60 an hour. What did she earn an hour before the rise?

Answer: £12

9 A club has some members. 36 of them are girls, which is 60% of the members.

(a) How many members does the club have?

Answer: 60 members

(b) How many boys are in the club?

Answer: 24

10 Two shops sell the same bike. Shop A reduces its price by 20% and sells the bike for £360. Shop B reduces its price by 10% and sells it for £396. Which shop had the higher price **before** its reduction? Show your working.

Answer: Shop A (£450, compared with £440)

11 The 45 students in the school choir are 25% of all the students in the school. How many students are in the school?

Answer: 180

12 The price of a coat is reduced by 30% in a sale, and it now costs £63. Priya says, "The original price was £63 + 30% of £63 = £81.90." Explain her mistake and find the original price.

Answer: £90

Exercise 5K Reverse percentages (calculator) Calculator allowed

1 Find the original amount in each case. Give money answers to the nearest penny.

(a) After a 12% increase: £250

Answer: £223.21

(b) After a 20% decrease: £399

Answer: £498.75

(c) After a 17.5% increase: £84.60

Answer: £72

(d) After a 13% decrease: £13,050

Answer: £15,000

(e) After a 3.5% increase: 12,420

Answer: 12,000

(f) After a 2% decrease: £7.84

Answer: £8

2 A car loses 18% of its value in its first year. After one year it is worth £10,578. What was it worth when it was new?

Answer: £12,900

3 A house price rose by 6% in a year. It is now £236,000. What was its price a year ago, to the nearest pound?

Answer: £222,642

4 A dress is reduced by 28% in a sale. The sale price is £37.80. Work out the original price.

Answer: £52.50

5 Jo's yearly pay is increased by 3.2% to £28,200. Work out her yearly pay before the rise. Give your answer to the nearest penny.

Answer: £27,325.58

6 A phone costs £96 after a 20% increase. Hamza says the price before the increase was £76.80, because 96 × 0.8 = 76.80. Is he right? Show how you know.

Answer: No. It was £80

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