

National 5 Mathematics

Percentages - Solutions - 2014-2019

Marks are indicated in brackets after each question number

2014 Paper 1 Question 9, (3)

$$80\% = 480,000$$

$$\text{So, } 1\% = 480,000 \div 80 = 6,000$$

$$\text{So, } 100\% = 600,000$$

2014 Paper 2 Question 1, (3)

A 15% decrease is the same as 85% of the original roll

So, after three years the roll will be given by

$$964 \times 0.85^3 = 592$$

2015 Paper 2 Question 1, (3)

$$\text{Value after two years} = £240,000 \times 1.028^2 = £253,628.16$$

2015 Paper 2 Question 8, (3)

Since the price has been reduced by 15% James paid 85% of the original price

$$£297.50 = 85\%$$

$$1\% = \frac{£297.50}{85} = £3.50$$

$$100\% = £3.50 \times 100 = £350$$

2016 Paper 2 Question 1, (3)

$$35 \times 0.92^3 = 27.25$$

Sugar content = 27.25 grams

2017 Paper 2 Question 2, (3)

$$1200 \times 1.045^3$$

$$= 1369.39$$

Value = £1369

2017 Paper 2 Question 5, (3)

$$4,800 = 115\%$$

$$1\% = \frac{4,800}{115} = 42$$

$$100\% = 42 \times 100 = 4,200$$

2018 Paper 2 Question 1, (3)

$$125,000 \times 0.98^3 = 117,649$$

117,649 tonnes

2019 Paper 2 Question 1, (3)

$$80,000 \times 1.15 = 92,000$$

92,000 blankets

2019 Paper 2 Question 9, (3)

$$977.85 = 102.5\%$$

$$1\% = 977.85 \div 102.5 = 9.54$$

$$100\% = 9.54 \times 100 = 954$$

So, £954 is the price if she had paid on time

$$£977.85 - £954 = £23.85$$

She could have saved £23.85