

GCSE Maths: Rounding and truncation (Foundation): answers

GCSE Maths - Decimals, Rounding and Estimation - Foundation - Lesson 4.6

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch04-decimals-rounding-estimation/foundation/rounding-and-truncation/

Exercise 4F Rounding to decimal places and place values

Non-calculator

1 Round each number to the nearest whole number.

(a) 3.6

Answer: 4

(b) 12.3

Answer: 12

(c) 7.5

Answer: 8

(d) 0.49

Answer: 0

(e) 19.5

Answer: 20

(f) 99.9

Answer: 100

2 Round each number to the nearest ten, hundred or thousand as shown.

(a) 346 to the nearest ten

Answer: 350

(b) 2549 to the nearest hundred

Answer: 2500

(c) 15 to the nearest ten

Answer: 20

(d) 48 270 to the nearest thousand

Answer: 48 000

(e) 653 to the nearest hundred

Answer: 700

(f) 7500 to the nearest thousand

Answer: 8000

3 Round each number to 1 decimal place.

(a) 4.36

Answer: 4.4

(b) 0.847

Answer: 0.8

(c) 12.05

Answer: 12.1

(d) 9.96

Answer: 10.0

(e) 3.449

Answer: 3.4

(f) 0.052

Answer: 0.1

4 Round each number to 2 decimal places.

(a) 5.678

Answer: 5.68

(b) 0.0942

Answer: 0.09

(c) 12.999

Answer: 13.00

(d) 3.005

Answer: 3.01

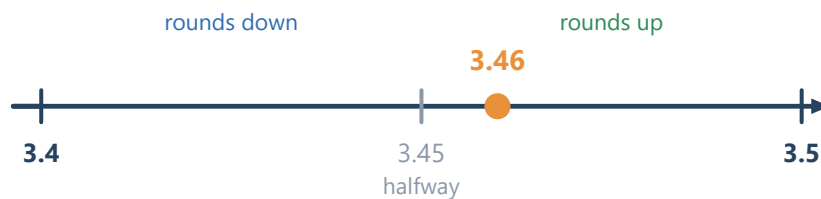
(e) 7.1349

Answer: 7.13

(f) 0.396

Answer: 0.40

5 Use the number line to round 3.46 to 1 decimal place. Is 3.46 nearer to 3.4 or 3.5?



Answer: 3.5 (nearer 3.5)

6 Which of these numbers are equal to 3.4 when rounded to 1 decimal place? 3.35, 3.449, 3.45, 3.39, 3.351, 3.5

Answer: 3.35, 3.449, 3.39, 3.351

- 7** The price of an item is £17.865. Round this to the nearest penny.

Answer: £17.87

- 8** Dev rounds 5.449 to 1 decimal place. He says: "5.449 rounds to 5.45, and 5.45 rounds to 5.5." Is he correct? Explain.

Answer: No, 5.4

- 9** A plank has length 2.4638 m. Write its length to the nearest centimetre.

Answer: 2.46 m

- 10** Write down the smallest number with 2 decimal places that rounds to 5.7 when rounded to 1 decimal place. Then write down the largest such number.

- (a) smallest

Answer: 5.65

- (b) largest

Answer: 5.74

- 11** Round 9.996 to 2 decimal places and explain why the answer has a zero in the units column.

Answer: 10.00

- 12** The number x is 3.5 when rounded to 1 decimal place, and 4 when rounded to the nearest whole number. Write down a possible value of x with 2 decimal places.

Answer: $3.5 < x < 3.55$: for example 3.5

Exercise 4G Rounding to significant figures and truncation

Calculator allowed

- 1** Round each number to 1 significant figure.

- (a) 48

Answer: 50

- (b) 0.0762

Answer: 0.08

- (c) 5921

Answer: 6000

- (d) 0.00349

Answer: 0.003

- (e) 3.96

Answer: 4

- (f) 95

Answer: 100

2 Round each number to 2 significant figures.

(a) 3.482

Answer: 3.5

(b) 0.05269

Answer: 0.053

(c) 7619

Answer: 7600

(d) 12.96

Answer: 13

(e) 0.003051

Answer: 0.0031

(f) 450.7

Answer: 450

3 Round each number to 3 significant figures.

(a) 4.5678

Answer: 4.57

(b) 0.0123456

Answer: 0.0123

(c) 56789

Answer: 56 800

(d) 2.998

Answer: 3.00

(e) 0.80049

Answer: 0.800

(f) 1234.5

Answer: 1230

4 Round each number to 1 significant figure.

(a) 27

Answer: 30

(b) 3.4

Answer: 3

(c) 0.62

Answer: 0.6

(d) 180

Answer: 200

5 Truncate each number as shown.

(a) 4.78 to 1 decimal place

Answer: 4.7

(b) 12.999 to 2 decimal places

Answer: 12.99

(c) 0.0567 to 2 significant figures

Answer: 0.056

(d) 4567 to 2 significant figures

Answer: 4500

(e) 9.99 to 1 decimal place

Answer: 9.9

(f) 0.8 to the nearest whole number

Answer: 0

6 Write the number 8.746:

(a) rounded to 2 decimal places

Answer: 8.75

(b) truncated to 2 decimal places

Answer: 8.74

7 Use your calculator to work out $17.8 \div 7$. Give your answer correct to 3 significant figures.

Answer: 2.54

8 £100 is shared equally between 7 people. How much does each person get, to the nearest penny?

Answer: £14.29

9 A bottle holds 1.5 litres. It is shared equally between 7 glasses. How much is in each glass? Give your answer in litres to 2 significant figures.

Answer: 0.21 litres

10 The population of a town is 24 683. Write this number (a) to the nearest thousand, (b) to 2 significant figures.

(a) to the nearest thousand

Answer: 25 000

(b) to 2 significant figures

Answer: 25 000

11 The value of π is 3.14159265... Write π correct to the accuracy shown.

(a) to 3 significant figures

Answer: 3.14

(b) to 2 decimal places

Answer: 3.14

(c) to 5 significant figures

Answer: 3.1416

12 Explain why 0.0307 is 0.031 to 2 significant figures, not 0.03.

Answer: 0.031

13 Write down a number that is 0.1 when rounded to 1 significant figure and 0.11 when rounded to 2 significant figures.

Answer: 0.108 (any number from 0.105 to 0.114)