Rounding

Round numbers to a specified accuracy

Question 1

Round each number to the accuracy given in brackets.

a) 962 (nearest 10)

b) 1282 (nearest 100)

c) 5.6 (nearest whole number)

d) 9999 (nearest 1000)

e) 19.5 (nearest 10)

f) 15 000 (nearest 10 000)

Question 2

Round each number to the number of decimal places (d.p) given in the brackets.

a) 2.71828 (4 d.p.)

b) 35.444 (2 d.p.)

c) 0.00567 (3 d.p.)

d) 18.95 (1 d.p.)

e) 345.9999 (3 d.p.)

f) 45.4545 (2 d.p.)

Question 3

Round each number to the number of significant figures (s.f) given in the brackets.

a) 3.14159 (2s.f.)

b) 29 876 (3 s.f.)

c) 0.07569 (1 s.f.)

d) 18 060 (3 s.f.)

e) 44.5 (1 s.f.)

f) 99 999 (2 s.f.)

Question 3

Trunctate 28.815 after 2 decimal places.

Extension

A number has been rounded to 1 decimal place.

The result is 2.3

a) Write down five possible values of the number before it was rounded

b) What is the smallest value the number could have taken before rounding?

c) What is the greatest value the number could have taken before rounding?

Investigation

Which of these numbers do you think is greatest?

$0.\dot{9}$ $\dot{or}$ 1

Investigate your conjecture.

Rounding

Answers

Question 1

Round each number to the accuracy given in brackets.

b) 962 (nearest 10) **960**

b) 1282 (nearest 100) **1300**

d) 5.6 (nearest whole number) **5**

d) 9999 (nearest 1000) **10 000**

e) 19.5 (nearest 10) **20**

f) 15 000 (nearest 10 000) **20 000**

Question 2

Round each number to the number of decimal places (d.p) given in the brackets.

b) 2.71828 (4 d.p.) **2.7183**

b) 35.444 (2 d.p.) **35.44**

c) 0.00567 (3 d.p.) **0.006**

d) 18.95 (1 d.p.) **19.0**

e) 345.9999 (3 d.p.) **345.000**

f) 45.4545 (2 d.p.) **45.45**

Question 3

Round each number to the number of significant figures (s.f) given in the brackets.

b) 3.14159 (2s.f.) **3.1**

b) 29 876 (3 s.f.) **29 900**

c) 0.07569 (1 s.f.) **0.08**

d) 18 060 (3 s.f.) **18 100**

e) 44.5 (1 s.f.) **40**

f) 99 999 (2 s.f.) **100**

Question 3

Trunctate 28.815 after 2 decimal places. **28.81**

Extension

A number has been rounded to 1 decimal place.

The result is 2.3

a) Write down five possible values of the number before it was rounded

Any five numbers from 2.25 up to (but not including) 2.35

b) What is the smallest value the number could have taken before rounding?

2.25

c) What is the greatest value the number could have taken before rounding?

There is no greatest value. It must be less than 2.35

Investigation

Which of these numbers do you think is greatest?

$$0.\dot{9} \qquad or \qquad 1$$

Investigate your conjecture.

The numbers are equal.