Planner

Place value, ordering and rounding

- Multiplying and dividing integers and decimals by 0.1 and 0.01
- Rounding numbers to the nearest multiple of a given power of 10
- Rounding numbers to either 1 or 2 decimal places
- Rounding decimals to the nearest whole number

Keywords

You should know

explanation 1

1 Write these numbers as multiples of 10. The first one has been done for you.

a $10^2 = 10 \times 10$ **b** 10^3 **c** 10^1

d 10^7 **e** $10^2 \times 10^1$ **f** $10^3 \times 10^2$

2 Write these as numbers.

a 2×10^2 **b** 4×10^3 **c** 9×10^4 **d** 7×10^5

e 8×10^6 **f** 2.1×10^2 **g** 3.5×10^3 **h** 1.25×10^2

3 Write these numbers using powers of 10.

a six hundred **b** five thousand **c** eighty thousand

d ten **e** twelve thousand **f** twenty hundred

g one hundred thousand **h** three billion **i** two hundred million

explanation 2a explanation 2b

4 Without a calculator, work out these multiplications.

a 23×0.1 **b** 99×0.1 **c** 149×0.1

d 8×0.1 **e** 765×0.01 **f** 55×0.01

g 9×0.01 **h** $6581 \times 0.1 \times 0.01$ **i** $62 \times 0.01 \times 0.1$

5 Without a calculator, work out these divisions.

a $3 \div 0.1$ **b** $20 \div 0.1$ **c** $169 \div 0.1$

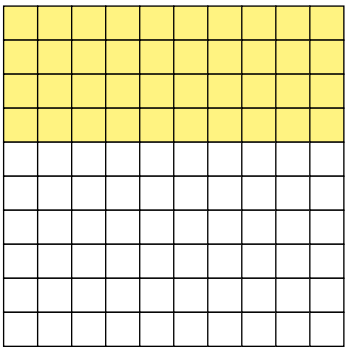
d $100 \div 0.1$ **e** $2 \div 0.01$ **f** $14 \div 0.01$

g $128 \div 0.01$ **h** $5 \div 0.1 \div 0.01$ **i** $85 \div 0.01 \div 0.1$

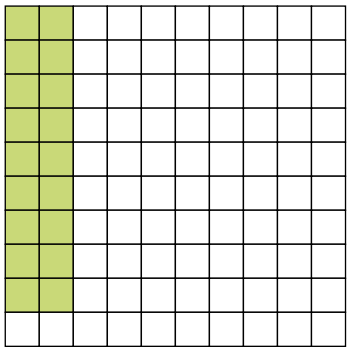
explanation 3 online

6 Write a multiplication and its answer for each diagram. The length of the side of each small square is 0.1 of the length of the large square.

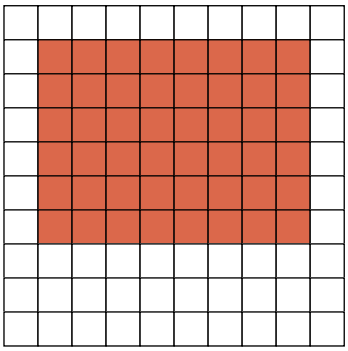
a



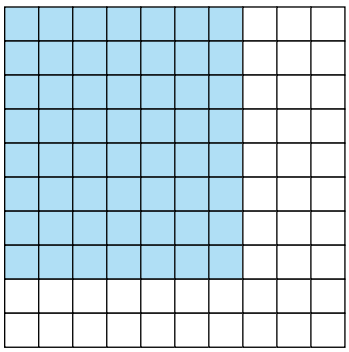
b



c



d



7 Write a division and its answer for each diagram in question **6**.

8 Without a calculator, work out these calculations.

a 0.3×0.2 **b** 0.8×0.4 **c** 0.5×0.9

d $0.6 \div 0.3$ **e** $0.6 \div 0.2$ **f** $0.9 \div 0.1$

9 Without a calculator, work out these calculations.

a 1.2×0.1 **b** 2.4×0.2 **c** 1.5×0.01

d $2.5 \div 0.1$ **e** $3.6 \div 0.01$ **f** $4.8 \div 0.2$

10 Find the missing number in each calculation.

a $0.4 \times 0.1 = \square$ **b** $0.2 \times 0.01 = \square$ **c** $0.8 \times \square = 0.24$

d $0.7 \times \square = 0.56$ **e** $\square \times 0.01 = 0.03$ **f** $\square \times 0.5 = 0.1$

g $\square \times 0.01 = 0.006$ **h** $12 \times \square = 2.4$ **i** $\square \times 8 = 3.2$

explanation 4 online

11 Round each number to the nearest 100.

a 240 **b** 670 **c** 1155

d 960 **e** 350 **f** 950

g 1950 **h** 45 **i** 4051

12 Round each number to the nearest 10.

a 28 **b** 84 **c** 121

d 125 **e** 99 **f** 948

g 1004 **h** 1995 **i** 4

13 Round each number to the degree of accuracy given.

a 823 (nearest 100) **b** 102 (nearest 10) **c** 1678 (nearest 1000)

d 2590 (nearest 1000) **e** 500 (nearest 1000) **f** 20 999 (nearest 1000)

14 The number of people attending a football match is exactly 67 189.
Round the number to these degrees of accuracy.

a the nearest 10 **b** the nearest 100

c the nearest 1000 **d** the nearest 10 000

15 The number of people voting in a local election was exactly 1 628 599.

Round the number to these degrees of accuracy.

a the nearest million
b the nearest 100 000
c the nearest 10 000
d the nearest 1000
e the nearest 100
f the nearest 10

explanation 5a explanation 5b online

16 Round each number to 1 decimal place.

a 23.69 **b** 1.82 **c** 9.94 **d** 6.97
e 19.93 **f** 19.98 **g** 19.95 **h** 100.04

17 Round each number to 2 decimal places.

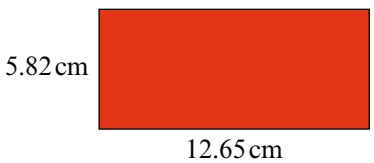
a 41.671 **b** 80.0453 **c** 1.007 **d** 30.0045
e 3.333 333 3 **f** 6.666 666 66 **g** 9.999 999 9 **h** 100.0045

18 Use a calculator to do each calculation.
Write your answer to the number of decimal places (d.p.) given.

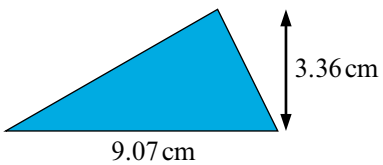
a 6 ÷ 9 (1 d.p.) **b** 17 ÷ 11 (1 d.p.) **c** 17 ÷ 11 (2 d.p.)
d 14 ÷ 17 (1 d.p.) **e** 20 ÷ 100 (2 d.p.) **f** 7 ÷ 9 (2 d.p.)

19 Use a calculator to find the area of each shape.
Give your answer to the nearest whole number.

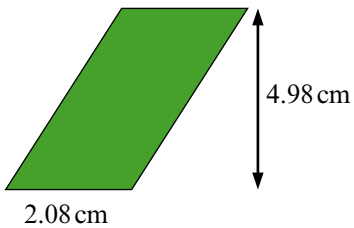
a



b



c



d