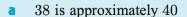
Example 7

Round off the following to the nearest 10:



b 483

c 8605



{Round up, as 8 is greater than 5}

DEMO

b 483 is approximately 480

{Round down as 3 is less than 5}

8605 is approximately 8610

{Round up, halfway is rounded up}



Go first to the digit after the one being rounded off. That is, the first one to the right.

EXERCISE 2F

1 Round off to the nearest 10:

23

b 65

68

97

2 347

561

409

598

3015

2856

k 3094

8885

m 2895

9995

30 905

49 895

Example 8

Round off the following to the nearest 100:

a 89

b 152

19 439



a 89 is approximately 100

{Round up as 8 is greater than 5}

b 152 is approximately 200

{Round up for 5 or more}

c 19439 is approximately 19400

{Round down, as 3 is less than 5}

2 Round off to the nearest 100:

a 81

671

617

850

2 349

982

9 2111

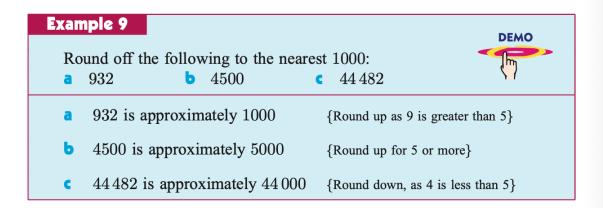
h 3949

999

 $13\,484$

k 99 199

 $10\,074$



3 Round off to the nearest 1000:

a	834	b	695	C	1089	d	5485
2	7800	f	6500	9	9990	h	9399
i	13095	j	7543	k	246088	T.	499359

- 5 Round off to the accuracy given:
 - **a** \$187.45 (to nearest \$10)
 - **b** \$18 745 (to nearest \$1000)
 - c 375 km (to nearest 10 km)
 - **d** \$785 (to nearest \$100)
 - the population of a town is 29 295 (to nearest one thousand)
 - f 995 cm (to nearest metre)
 - 9 8945 litres (to nearest kilolitre)
 - h the cost of a house was \$274 950 (to nearest \$10 000)
 - the number of sheep on a farm is 491 560 (nearest 100 000)

One kilolitre is one thousand litres.



Estimation

Example 16

Estimate the product **a** 39×7 **b** 891×4

a Round off to the first digit then put zeros in the other places

 39×7 is approximately 40×7 which is approximately 280

b Round off to the first figure then put zeros in other places

 891×4 is approximately 900×4 which is approximately 3600

7 Estimate the following products:

e 87 × 5

 54×7

$$\mathbf{b}$$
 31×7

 92×3

$$36 \times 9$$

 39×9

$$k 94 \times 5$$

$$52 \times 6$$

h 88 × 8

- 67×3
- 8 Multiply the following. Use estimation to check that your answers are reasonable:

 78×7

C

 53×4

92 × 9

b

 69×8

9

 $\begin{array}{c} 82 \\ \times 5 \end{array}$

h

 $\begin{array}{c} 38 \\ \times 3 \end{array}$

Example 17

Estimate the product 427×89

Round off the first digit then put zeros in the other places:

 427×89 is approximately 400×90 {5 digits in the question} is approximately $36\,000$ {5 digits in the answer}

The estimate tells us that the correct answer should have 5 digits in it.

The sum of the number of zeros is the number of zeros which should appear in the product, unless the product of the two digits ends in zero.

11 Estimate the following products using 1 figure approximations:

 49×32

 83×57

 58×43

d 389×21

2 519 × 38

 88×307

 728×65

 921×78

 58975×8

 $31\,942 \times 6$

 6412×37

 29×7142