Round to estimate and approximate

1 Rosie is working out 2,937 + 1,870

Rosie rounds each number to the nearest 1,000 to estimate the answer.

Complete the sentences.

2,937 rounded to the nearest 1,000 is $\boxed{3,000}$

1,870 rounded to the nearest 1,000 is $\boxed{2,000}$

Rosie's estimate for the answer is

$\boxed{3,000}$ + $\boxed{2,000}$ = $\boxed{5,000}$

Complete the column addition to work out the actual answer.

```
    2 9 3 7
  + 1 8 7 0
    4 8 0 7
      ₁ ₁
```

The actual answer is $\boxed{4,807}$

2 Round each number to the nearest 10,000 to estimate the answer to the calculations.

a) 12,063 + 29,580 $\boxed{10,000}$ + $\boxed{30,000}$ = $\boxed{40,000}$

b) 47,640 − 9,485 $\boxed{50,000}$ − $\boxed{10,000}$ = $\boxed{40,000}$

3 Annie works out 7,320 + 912

> The answer is 16,440
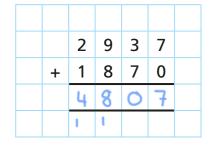
Use approximations to show that Annie is incorrect.

7,000 + 1,000 = 8,000

Annie's answer is too big.

4 Complete the calculations.

Use approximations to check your answers.

a) 3,845 km + 7,006 km = $\boxed{10,851 \text{ km}}$

b) 873 + 9,618 = $\boxed{10,491}$

c) 79,382 − 8,716 = $\boxed{70,666}$

d) £12,005 + £3,978 − £6,172 = $\boxed{£9,811}$

5 The table shows the number of people of different ages living in three towns.

	Town A	Town B	Town C
Under 16	3,765	8,283	10,301
16 to 65	35,835	14,100	24,554
Over 65	1,949	9,821	656

Estimate which town has got the greatest population.

Town __A__ has the greatest population.

6 Are these statements correct? How do you know?

a) 29,999 − 9,999 = 30,000 − 10,000

True, each number is 1 more so the difference doesn't change.

b) 17,550 + 10,570 > 17,550 + 9,985

True because 10,570 > 9,985

c) 17,990 + 75,980 − 17,990 = 12,975 + 75,980 − 12,975

True, the total of each side is 75,980

7 Mo has made a mistake with this calculation.

$$
\begin{array}{r}
6\ \ ^13\ \ ^12 \\
1\ \ \not7\ \ \not4\ \ \not3\ \ ^12 \\
-\ \ \ \ 8\ \ 4\ \ 8\ \ 7 \\
\hline
1\ \ 8\ \ 9\ \ 4\ \ 5
\end{array}
$$

Use rounding and approximating to show how you know.

_17,000 − 8,000 = 9,000_

Mo's answer is too big.

8 Mr Khan writes this question on the board.

7,395 − 711

Dexter's estimate is 7,000 − 1,000 = 6,000

Whitney's estimate is 7,400 − 700 = 6,700

Whose estimate do you agree with? __Both__

Explain your answer.

They have both correctly estimated they have just rounded to different things.

Work out the actual answer.

Whose estimate was the closest? __Whitney__

Talk about it with a partner.