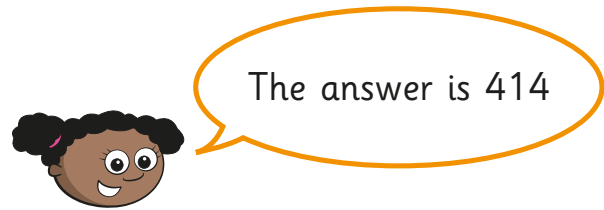


Use estimation as a method for checking mental calculations

1 Whitney is trying to work out $119 + 395$ in her head.



a) Complete the sentences to estimate the answer.

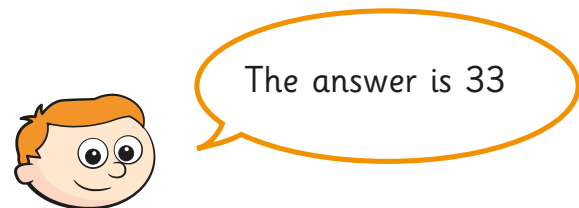
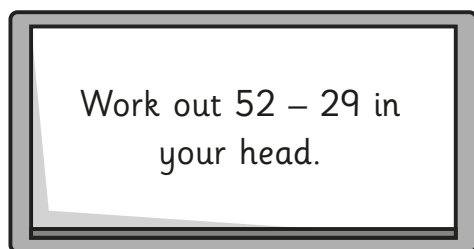
119 is close to

395 is close to

+ =

b) Do you think Whitney is correct, based on your estimate? NO
Explain your answer.

2 Mrs Rose has given her class a question.



a) Use estimation to show that Ron is incorrect.

$50 - 30 = 20$

b) Discuss with a partner what mistake you think Ron made.

3 For each calculation:

- estimate the answer to the question in your head
- work out the answer in your head.

Complete the table.

Calculation	My estimate	My answer
$900 + 3,900$	5,000	4,800
$701 - 295$	400	406
99×3	300	297
$196 \div 2$	100	98

4 Use estimation to explain why the statements must be true.

a)

$500 + 1,000 = 1,500$ $459 < 500$ and $972 < 1,000$

b)

$30 \times 6 = 180$ $32 > 30$

c)

$\sqrt{64} = 8$ $69 > 64$

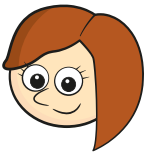
d) $\sqrt{4,500} < 70$

$\sqrt{4,900} = 70$ $4,500 < 4,900$

5 Some students have tried to work out some calculations mentally.

a) 19×7

The answer is 133




Do you agree with Rosie? Yes

Use estimation to explain your answer.

$20 \times 7 = 140$ $19 < 20$ so $19 \times 7 < 140$

b) 39×5

The answer is 205

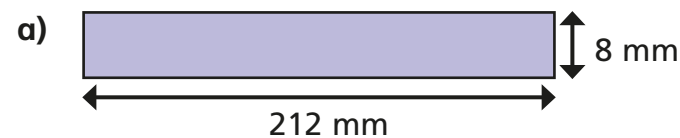


Do you agree with Amir? No

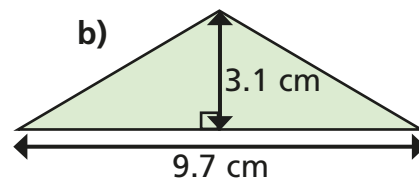
Use estimation to explain your answer.

$40 \times 5 = 200$ $39 < 40$ so $39 \times 5 < 200$

6 Estimate the areas of the shapes.

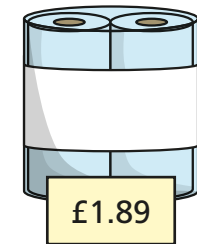
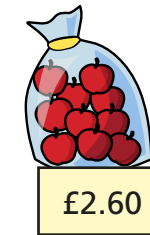
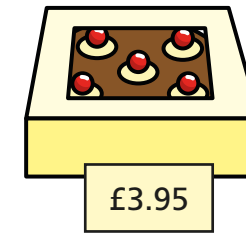


$1,600$ mm²



15 cm²

7 Mrs Lee wants to buy these items.



She has £10 to spend.

Use estimation to decide if Mrs Lee has enough money.

Tick your answer.

She has enough money.

She doesn't have enough money.

Compare estimates with a partner.

8 Filip receives £10 for his birthday.

He wants to buy as many packs of cards as he can.

a) Estimate how many packs he can buy.

b) Explain how you arrived at your estimate.



$£10 \div £2 = 5$

9 Estimate the answers to the calculations.

$£3.85 + £2.12 + £3.44$	$\frac{2}{5}$ of 59	18.94×9
$£9$	24	180