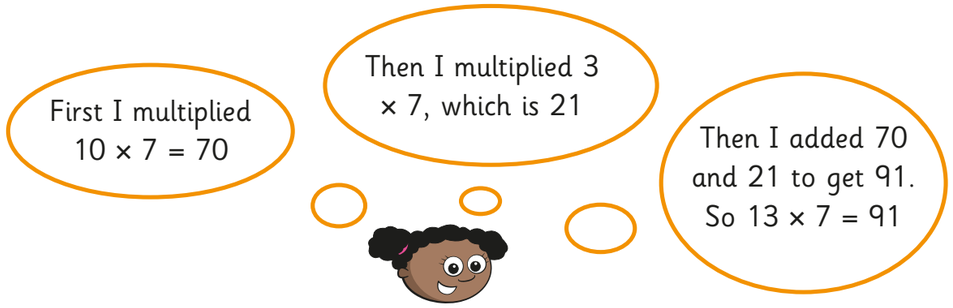
Know and use mental multiplication and division strategies for integers

1 Whitney is working out 13 × 7 mentally.



Use Whitney's method to work out the calculations.

For parts a) and b), write the steps you followed.

a) 16 × 5 = ☐

b) 24 × 3 = ☐

c) 19 × 8 = ☐

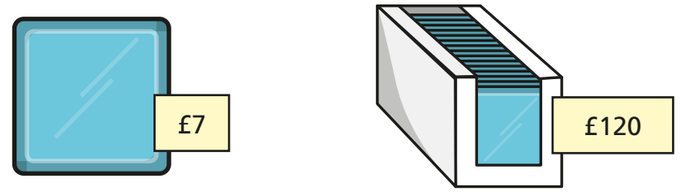
d) 3 × 35 = ☐

e) 7 × 23 = ☐

f) 15 × 9 = ☐

2 Ms Xu needs to buy 15 tiles.

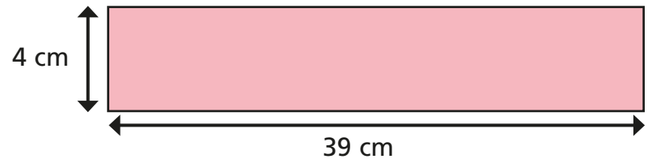
She can buy a pack of 15 or she can buy them individually.



a) By doing a quick mental calculation, is it cheaper to buy the pack of 15? _____

b) Explain why mental arithmetic might help in everyday life.

3 Here is a rectangle.



Describe a mental method you could use to work out the area of the rectangle.

Compare your method with a partner's.

4 Here are some multiplications.

Work them out mentally.

60 × 4	600 × 4	400 × 60
☐	☐	☐

Talk about your method with a partner.

5 Here is a method to work out 99 × 7 mentally.

> Step 1: Multiply 100 by 7 = 700
>
> Step 2: Subtract 7 from 700 = 693

a) Explain to a partner why this method works.

b) Work out 98 x 7 mentally. Then write the steps in your thinking.

c) Work out 199 x 3 mentally. Then write the steps in your thinking.

6 Work out the multiplications mentally.

a) 99 × 4 = ☐

b) 99 × 12 = ☐

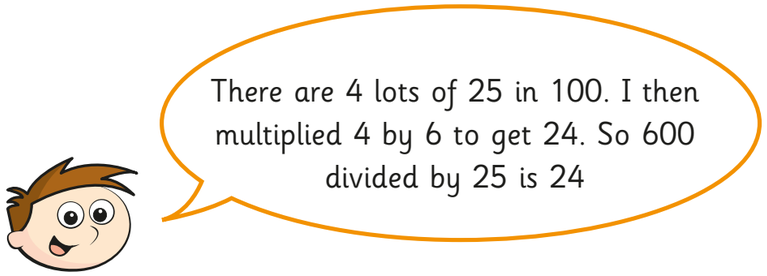
c) £98 × 3 = ☐

d) £97 × 3 = ☐

e) 5 × 199 = ☐

f) 299 × 6 = ☐

7 Teddy is explaining how he worked out 600 ÷ 25 in his head.



Why did Teddy multiply by 6 to get the answer?

8 Use a similar method to Teddy's to work out the divisions.

a) 300 ÷ 25 = ☐

b) 300 ÷ 20 = ☐

c) 400 ÷ 50 = ☐

d) 900 ÷ 50 = ☐

e) 1,000 ÷ 25 = ☐

f) 1,000 ÷ 20 = ☐

g) 4,000 ÷ 25 = ☐

h) 2,000 ÷ 50 = ☐

9 Explain how you can mentally work out £240 ÷ 6

10 Use mental methods to work out the divisions.

450 ÷ 9 = ☐

630 ÷ 7 = ☐

3,200 kg ÷ 4 = ☐ kg

£640 ÷ 8 = ☐

350 ÷ 5 = ☐

7,200 g ÷ 12 = ☐