Efficient multiplication
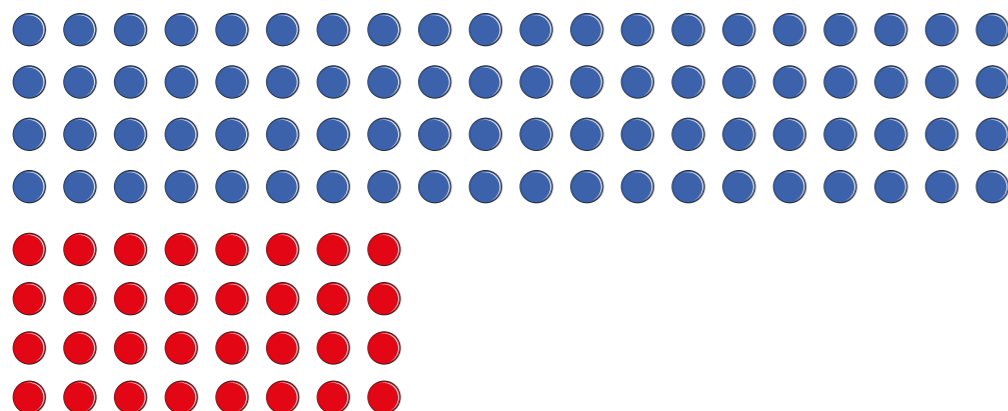
1 Class 4 are multiplying 28 × 4 mentally.

They are trying two different methods.
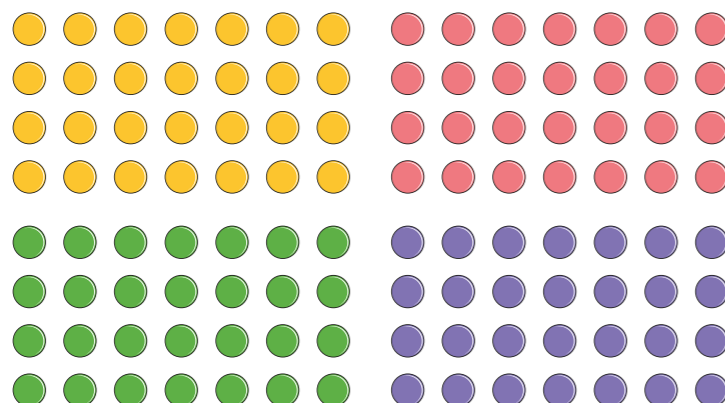
a) Complete their calculations.

Method 1

$20 \times 4 + 8 \times 4 =$ ☐ $+$ ☐ $=$ ☐
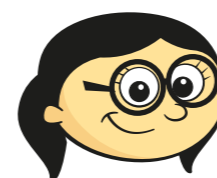
Method 2

$4 \times$ ☐ $=$ ☐

b) Which method do you find easier?

Talk about it with a partner.

c) What other methods could you use to work out 28 × 4?

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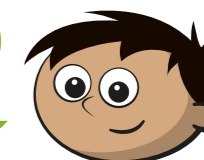**2** Mo, Amir and Annie worked out 35 × 6 in 3 different ways.

> I multiplied 30 by 6 and then added 5 more lots of 6

Mo

> I multiplied 35 by 2, then multiplied that answer by 3

Amir

> I multiplied 5 by 6, then multiplied that answer by 7

Annie

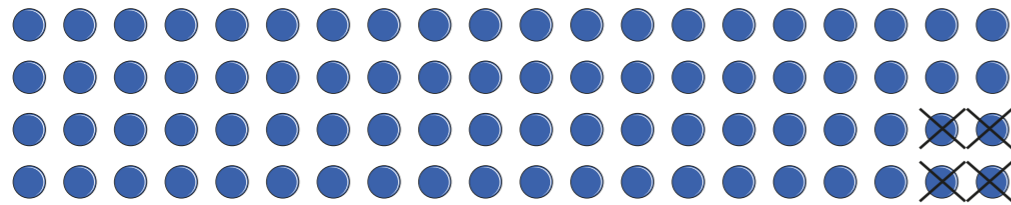**a)** Work out the answer using each method to show that they are all correct.

Mo

Amir

Annie

b) Who has used the most efficient method?

Talk about it with a partner.
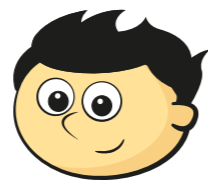
3 Scott is working out 21×4

$20 \times 4 = 80$
$80 - 4 = 76$
$21 \times 4 = 76$

a) What mistake has Scott made?

_____

b) What is the correct answer?

4 Jack works out 36×9

36×9
$36 \times (10 - 1)$
$360 - 36 = 324$

Adapt Jack's method to work out 36×99

$36 \times 99 = $ ☐

5 Esther has found a quick way to multiply 84 by 5

84×5
$84 \times 10 = 840$
(then divide by 2) which is 420

Use Esther's method to complete the calculations.
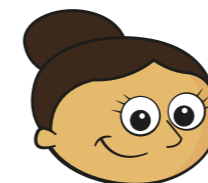
$43 \times 5 = $ ☐ $74 \times 5 = $ ☐

$62 \times 5 = $ ☐

6 Tommy and Dora are both working out 25×8

$25 \times 8 = 25 \times 10 - 25 \times 2$

a) Use Tommy's method to work out the answer.

☐

$25 \times 8 = 50 \times 8 \div 2$

b) Use Dora's method to work out the answer.

☐

c) Whose method do you prefer? Why?

_____

d) Do you know another method?