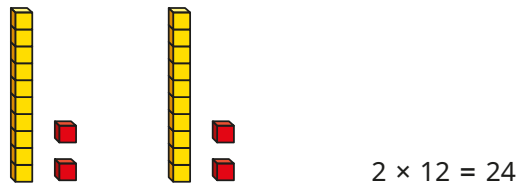


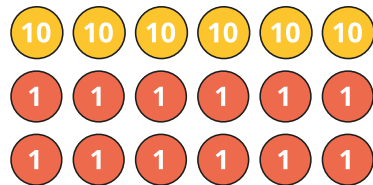
1 The base 10 represents 2×12



Use base 10 to work out 3×12

Draw your base 10 and complete the multiplication.

2 The place value counters represent 12×6



Use the place value counters to work out 12×6

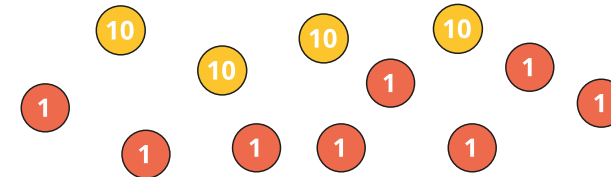
Do you need to exchange any 1s for 10s?

3 Work out the calculations.

- | | |
|-------------------|-------------------|
| a) 5×12 | e) 7×12 |
| b) 9×12 | f) 4×12 |
| c) 8×12 | g) 11×12 |
| d) 10×12 | h) 12×12 |



4 a) The place value counters represent 48



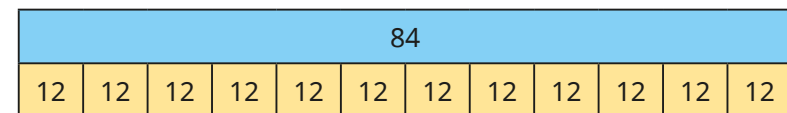
Make groups of 12 to work out $48 \div 12$

b) Use place value counters to help work out the divisions.

$36 \div 12$ $60 \div 12$ $84 \div 12$ $120 \div 12$

In which divisions did you need to exchange 1 ten for 10 ones?

5 Ron uses a bar model to represent 84 divided by 12



a) Explain Ron's mistake.

b) Draw the correct bar model to represent 84 divided by 12

6



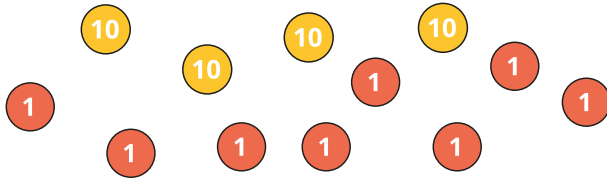
To multiply any number by 12, I can multiply by 10 and multiply by 2 and then add the two products together.
 $13 \times 12 = 13 \times 10 + 13 \times 2$

Use Tiny's method to work out the multiplications.

- a) $13 \times 12 = 13 \times 10 + 13 \times 2$ b) 24×12



4 a) The place value counters represent 48



Make groups of 12 to work out $48 \div 12$

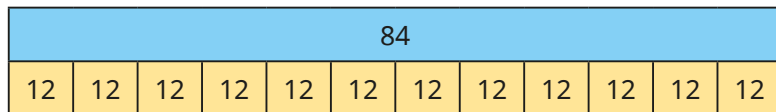
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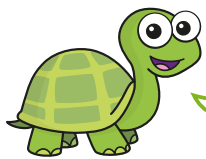
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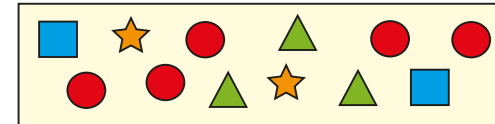
Use Tiny's method to work out the multiplications.

a) $13 \times 12 = 13 \times 10 + 13 \times 2$

b) 24×12

7 Amir is making pictures using shapes.

Here is one picture.



Amir makes 12 pictures like this one.

a) How many shapes does he use altogether?

Show your workings.

b) If each picture is exactly the same, how many of each shape does Amir use?

8 Dexter is finding the digit sums of multiples of 12



$1 + 2 = 3$
 $2 + 4 = 6$
 $3 + 6 = 9$
 $4 + 8 = 12$

a) Dexter thinks the next number in the pattern will be 15

Is he correct?

Explain your answer.

b) What happens when he tries this for all the multiples of 12 up to 12×12 ? Is there a pattern?

