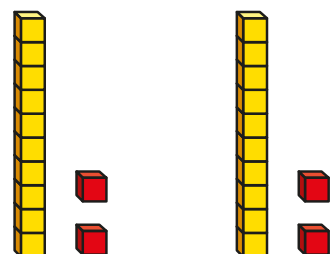


12 times-table and division facts

- 1 The base 10 represents 2×12



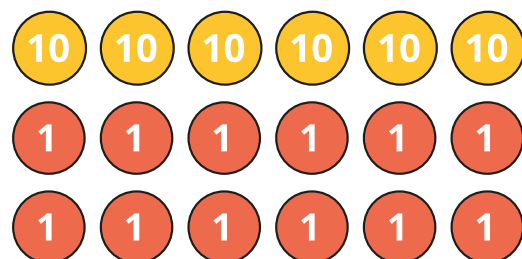
$$2 \times 12 = 24$$

Use base 10 to work out 3×12

Draw your base 10 and complete the multiplication.

$$3 \times 12 = \boxed{}$$

- 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?

$$12 \times 6 = \boxed{}$$

- 3 Complete the calculations.

a) $5 \times 12 = \boxed{}$

e) $7 \times 12 = \boxed{}$

b) $9 \times 12 = \boxed{}$

f) $4 \times 12 = \boxed{}$

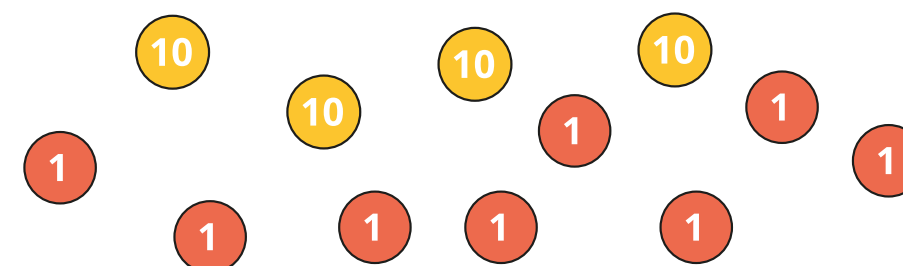
c) $8 \times 12 = \boxed{}$

g) $11 \times 12 = \boxed{}$

d) $10 \times 12 = \boxed{}$

h) $12 \times 12 = \boxed{}$

- 4 a) The place value counters represent 48



Circle groups of 12 to help complete the division.

$$48 \div 12 = \boxed{}$$

- b) Use place value counters to help complete the divisions.

$$36 \div 12 = \boxed{}$$

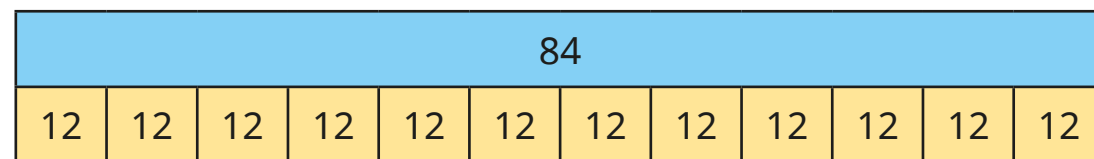
$$84 \div 12 = \boxed{}$$

$$60 \div 12 = \boxed{}$$

$$120 \div 12 = \boxed{}$$

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

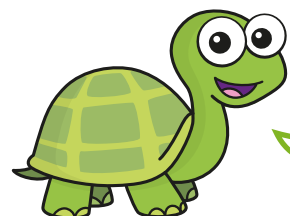
- 5 Ron uses a bar model to represent 84 divided by 12



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

$$= \boxed{} + \boxed{} = \boxed{}$$

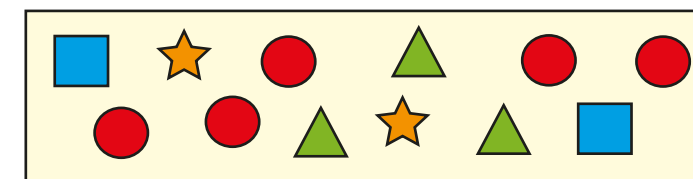
- b) $24 \times 12 = 24 \times \boxed{} + 24 \times \boxed{}$

$$= \boxed{} + \boxed{} = \boxed{}$$

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?

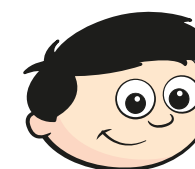
Show your workings.

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

$$\text{blue square} = \boxed{} \quad \text{red circle} = \boxed{} \quad \text{orange star} = \boxed{} \quad \text{green triangle} = \boxed{}$$

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?