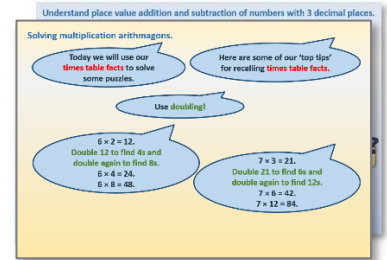


# Week 15, Day 3

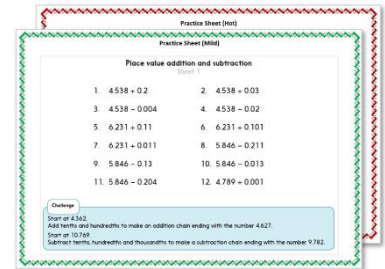
## Multiplication 'arithmagons'

Each day covers one maths topic. It should take you about 1 hour or just a little more.

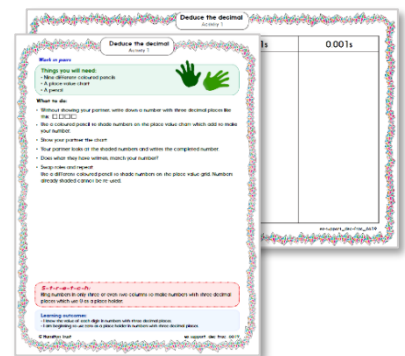
1. Start by reading through the **Learning Reminders**.



2. Think you've got it? Have a go at the **Investigation**.



3. Have I mastered the topic? A few questions to **Check your understanding**.



## Learning Reminders

### Solving multiplication arithmagons.

Today we will use our **times table facts** to solve some puzzles.

Here are some of our 'top tips' for recalling **times table facts**.

Use **doubling!**

$$6 \times 2 = 12$$

**Double 12 to find 4s and double again to find 8s.**

$$6 \times 4 = 24$$

$$6 \times 8 = 48$$

$$7 \times 3 = 21$$

**Double 21 to find 6s and double again to find 12s.**

$$7 \times 6 = 42$$

$$7 \times 12 = 84$$

## Learning Reminders

### Solving multiplication arithmagons.

Use **patterns!**

5s always end in 5 or 0.  
5, 10, 15, 20....

Use mathematical  
relationships....

The digits in the 9s always  
add to 9.  
9, 18, 27, 36...

Use **commutativity!**  
In multiplication the  
order doesn't matter.

$$3 \times 7 = 7 \times 3 = 21$$

$$9 \times 6 = 6 \times 9 = 54$$

## Learning Reminders

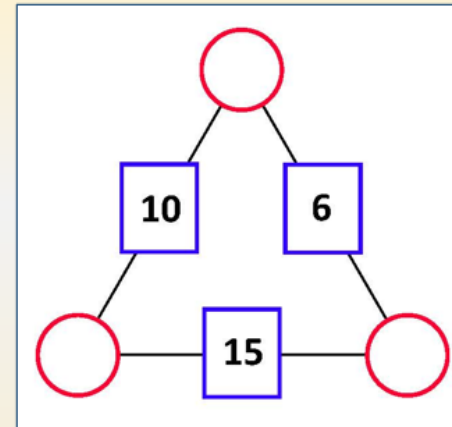
### Solving multiplication arithmagons.

We have to find the missing numbers in the **red circles**.  
The numbers are multiplied to find the numbers in the **blue shapes**.

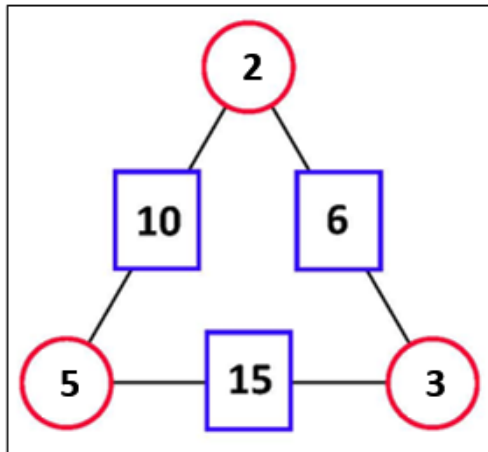
Start with 15.  
We know that  $3 \times 5$  or  $5 \times 3 = 15$ .

Decide which circles to put 3 and 5 in.  
We need to place them so that we can put a number in the top circle that will multiply by each to give us 10 and 6.

Complete the puzzle before checking the answer on the next page.



## Multiplication Arithmagons

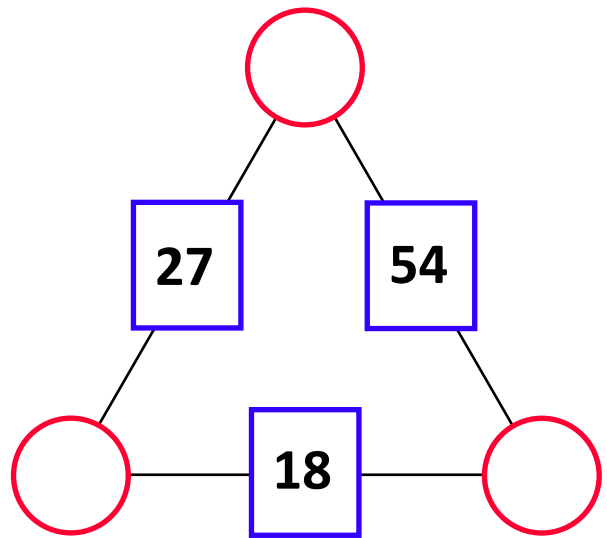
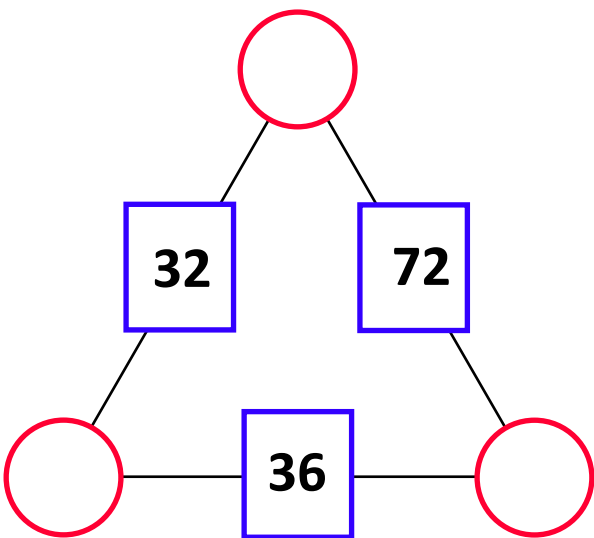
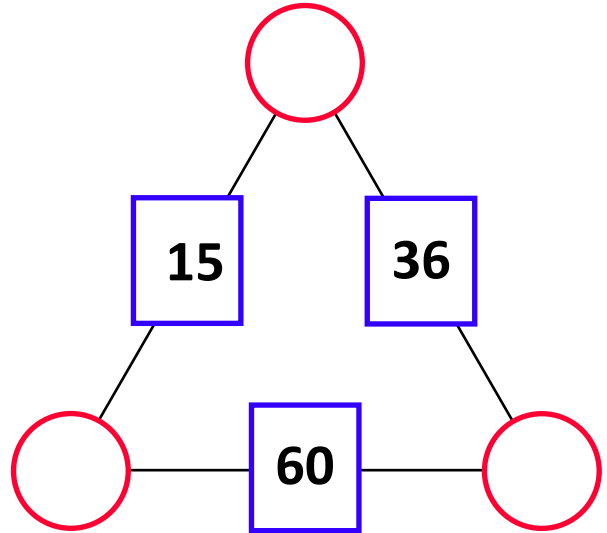
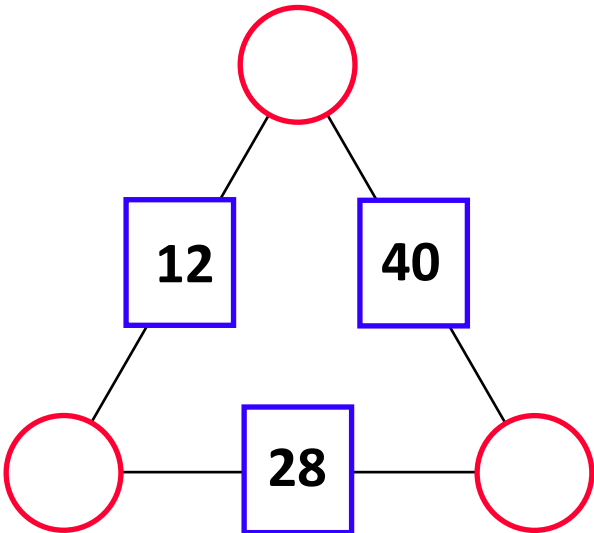
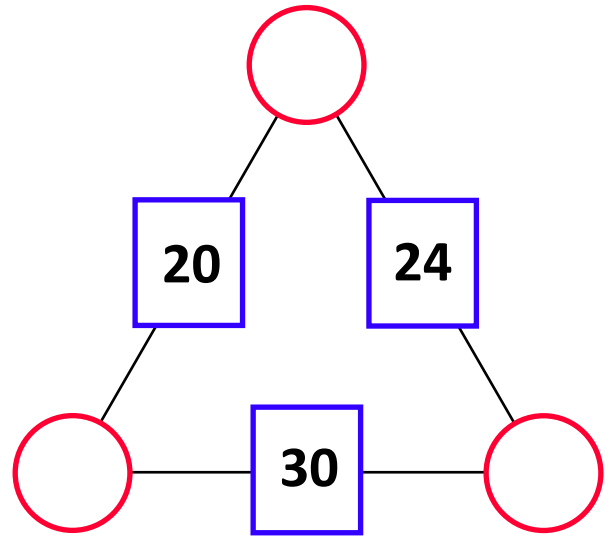
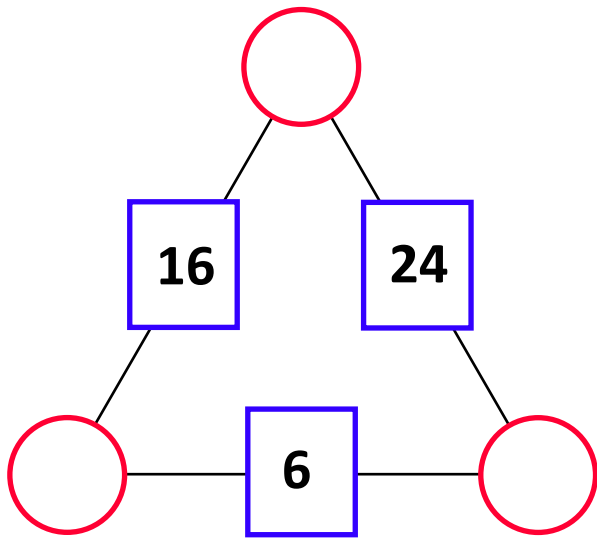


- Did you find the solution?
- Check that on all three sides of the triangle, multiplying the two corner numbers gives the number along the side.
- Now try the puzzles on the next page.
- A good strategy is to start with a multiplication fact that you know along one side.
- For example, in the first puzzle start with  $3 \times 2 = 6$ .
- Put the numbers in the **red circle**.
- Then try out other numbers in the third circle.
- If you can't find a solution, swap the 3 and 2 around.
- When you have finished, carefully **check** your answers - remember you need all three sides to be correct!
- Now use the blank sheets to make up some similar puzzles.

You can use the completed puzzles to practise your times tables.  
Use three coins to cover the numbers in the blue boxes.  
Now multiply the numbers in the corners.  
Remove the coins to check!

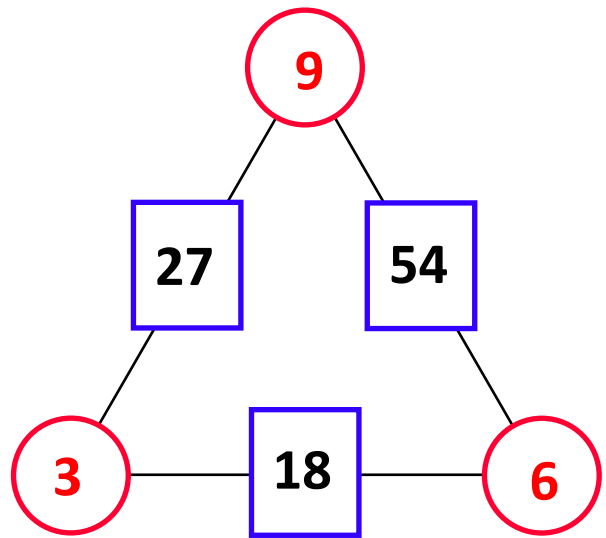
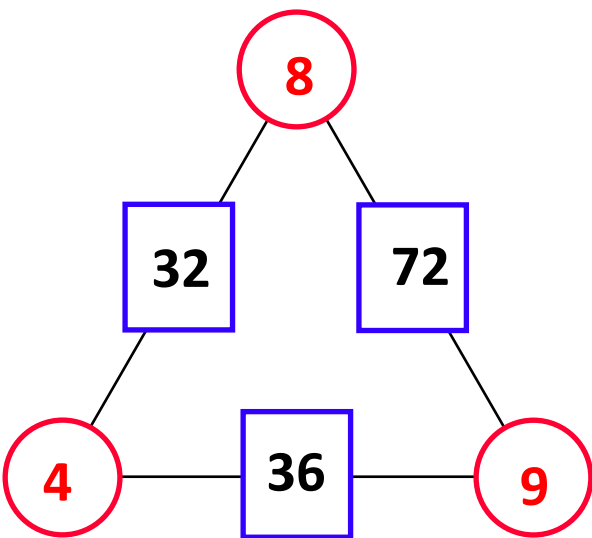
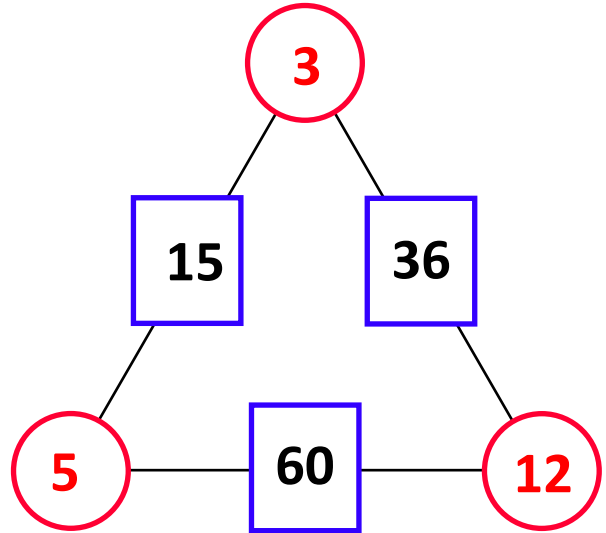
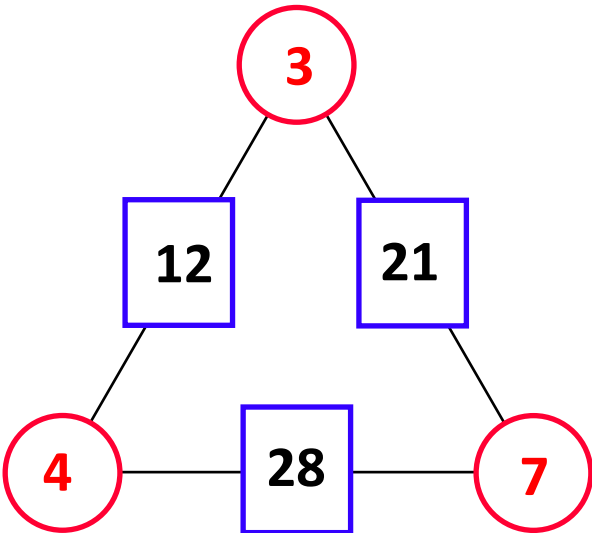
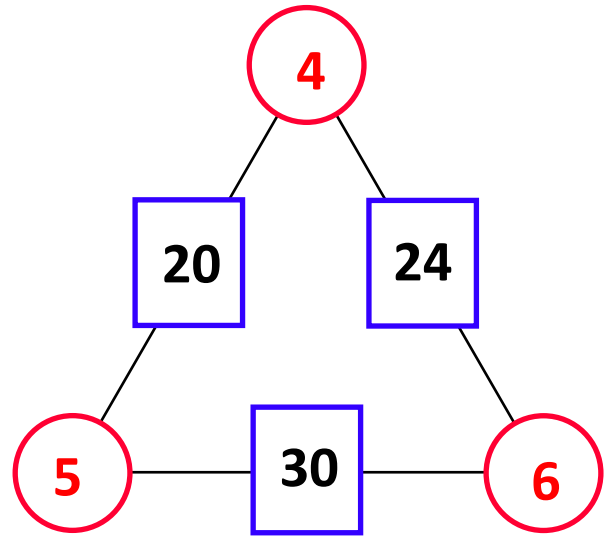
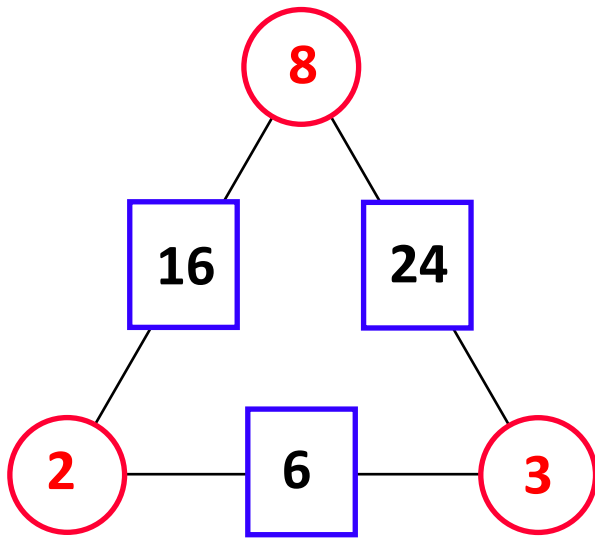
# Investigative Practical Activity

## Multiplication Arithmagons



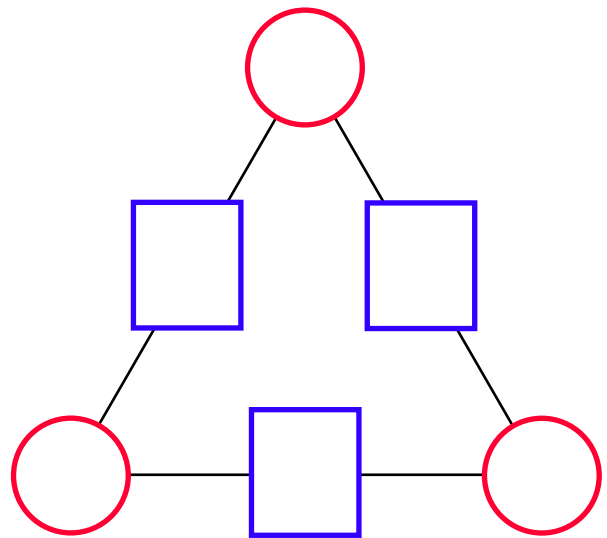
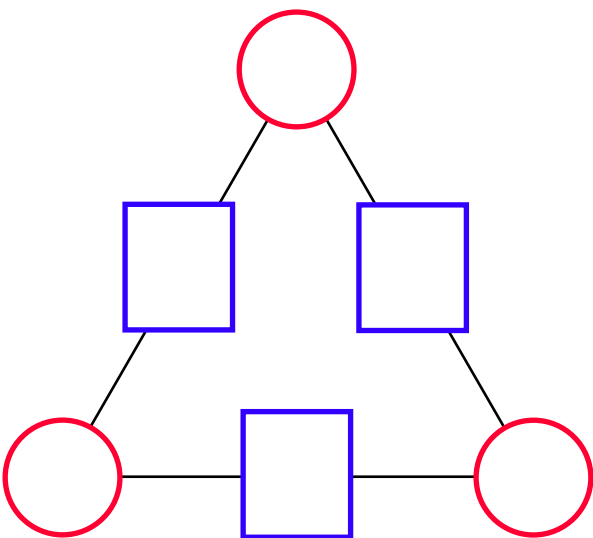
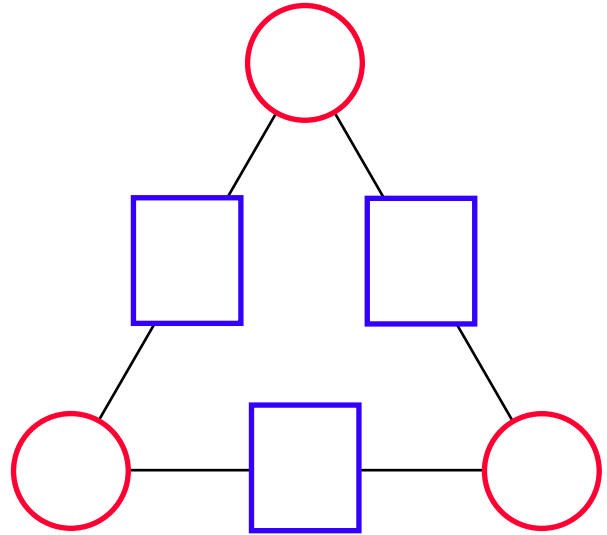
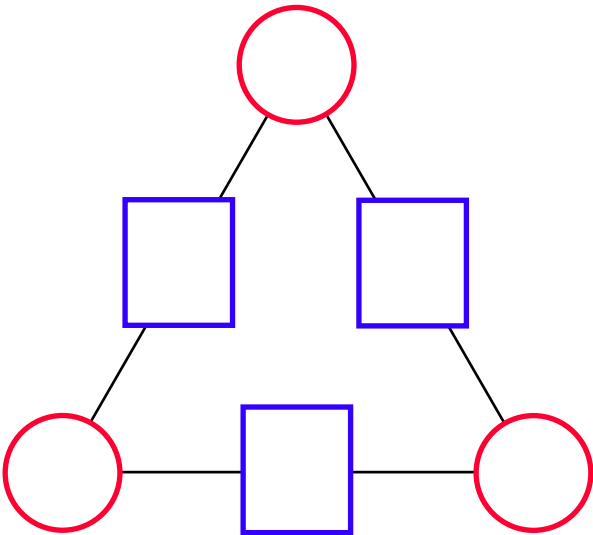
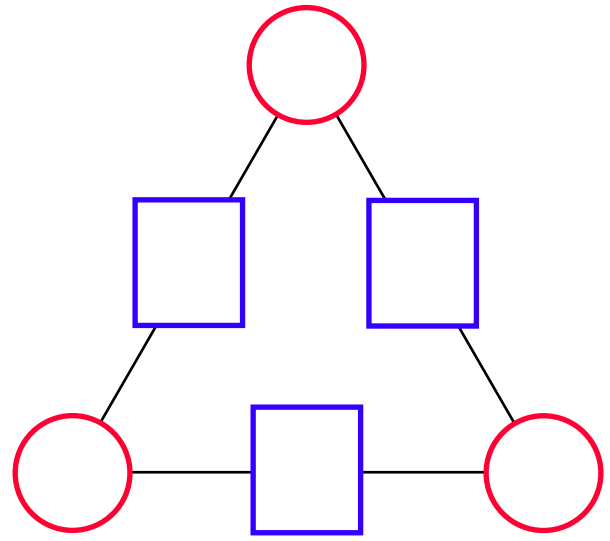
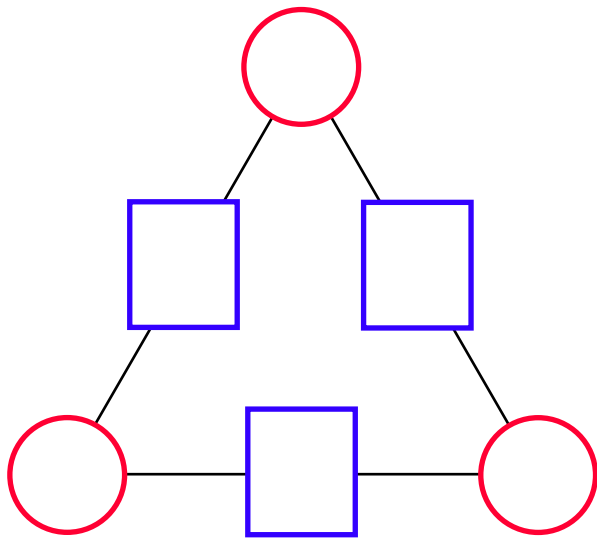
# Investigative Practical Activity

## Answers



# Investigative Practical Activity

## Multiplication Arithmagons Blank Sheet





## Check your understanding

### Times tables check up

Toni only scored three-tenths in her times table test. You can do better!

- Check her answers and find which three she got right.
- Give the correct answers for those she got wrong.

1.  $5 \times 7 = 34$

2.  $8 \times 4 = 32$

3.  $6 \times 9 = 48$

4.  $3 \times 12 = 38$

5.  $6 \times 6 = 30$

6.  $9 \times 10 = 99$

7.  $5 \times 5 = 25$

8.  $12 \times 2 = 26$

9.  $7 \times 4 = 28$

10.  $9 \times 8 = 64$

*Fold here to hide answers*

---

## Check your understanding

### Answers

Numbers 2, 7 and 9 are correct.

Other answers are: 1. 35 3. 54 4. 36 5. 36 6. 90 8. 24 10. 72