

**Addition and Subtraction: recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100**

Learning focus

Know all pairs of numbers that equal any given number up to 20

Greater Depth Challenge:

$$19 + \_ = 20$$

$$18 + \_ = 20$$

$$\_ + 3 = 20$$

$$\_ + 4 = 20$$

What do you notice with this sequence?

Greater Depth Challenge:

Using these digits, can you complete each number sentence?

**19**

**9**

**10**

$$\_ + \_ = \_$$

$$\_ + \_ = \_$$

$$\_ - \_ = \_$$

$$\_ - \_ = \_$$

Greater Depth Challenge:

**True or false?**

“When you add 3 odd numbers it will make 20.”

Learning focus

- ☐ Know all the subtraction facts within 20 that equal a specified answer
- ☐ Know number bonds and related subtraction facts to 20

Greater Depth Challenge:

## Fix the errors!

|    |  |
|----|--|
| 14 |  |
| 16 |  |

$$14 - 16 = 3$$

Greater Depth Challenge:

$$\square + \square = \square$$

$$\square - \square = \square$$

*The whole is 18 and the difference between each part is 3.*

Use this information to fill in the blanks.

Greater Depth Challenge:

## True or False?

When you subtract 2 even numbers, the answer is always even.

Explain your answer.

Greater Depth Challenge:

$$\underline{\quad} - \underline{\quad} > 17 - \underline{\quad}$$

Fill in the missing spaces to make this number sentence true.

How many ways can you do it?

Learning focus

Using number bond knowledge to 10, derive all pairs of multiples of 10 with totals up to 100, e.g.,  
 $3 + 4 = 7$  so  $30 + 40 = 70$ .

Greater Depth Challenge:

**$1+9$**

**$2+8$**

**$3+7$**

How can you use these statements to help you work out bonds of 20?

Greater Depth Challenge:

|   |   |   |   |   |
|---|---|---|---|---|
| • | • | • | 0 | 0 |
| 0 | 0 | 0 | • | 0 |

Sam use the ten frame to write this calculation:

**$40+60 = 100$**

What is the value of black counter?

How do you know?

Greater Depth Challenge:

$$34 + \square = 40$$

$$\square + 3 = 30$$

$$40 = 47 - \square$$

$$50 = \square - 6$$

Greater Depth Challenge:

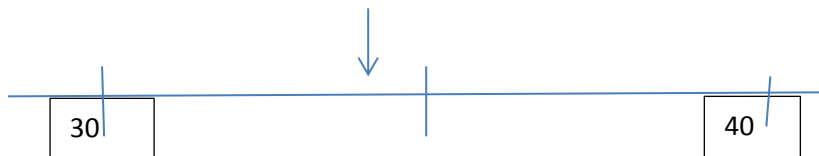
Sam calculated  $37+30=67$

Sarah calculated  $30+30+7=67$

Which method was most efficient? Why?

Greater Depth Challenge:

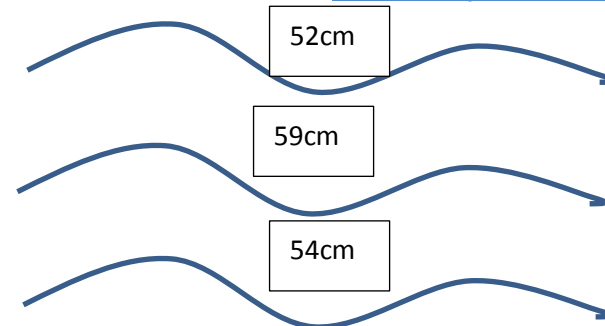
Sam showed 37 on a number line.



Sam said *"37 is closer to 30 it has 3 lots of tens"*

Do you agree?

Greater Depth Challenge:



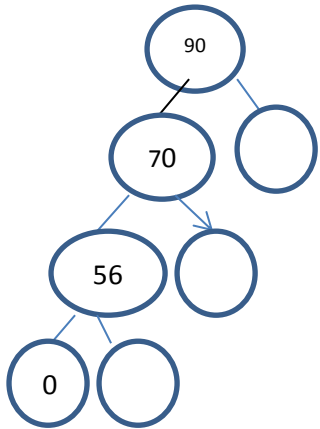
Sam needs to cut 50cm of string. which string would he use to cut to produce the least amount of waste? Explain your choice!

**Addition and Subtraction:** Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers.

Learning focus

☒ Add or subtract a one-digit number to or from a two-digit number.

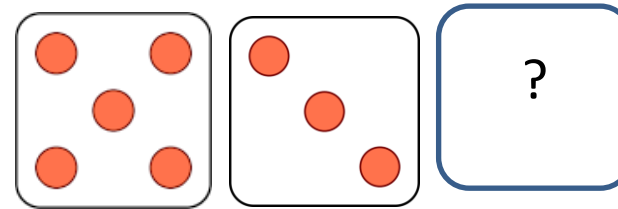
Greater Depth Challenge:



Fill in the missing parts.  
Explain how you filled in the missing numbers.

Greater Depth Challenge:

Sam rolled 3 dice. His total was 13. What was the number on his 3<sup>rd</sup> die?



Greater Depth Challenge:

$$32 + 14 = 46$$

What is the mistake?

Greater Depth Challenge:

| tens | ones |
|------|------|
|      |      |
|      |      |

Sam is adding 15 and 36.

This is 15.

This is 36.

Spot the mistake.

Learning focus

Add or subtract a multiple of 10 to or from any two-digit number, e.g., use a 100 square grid.

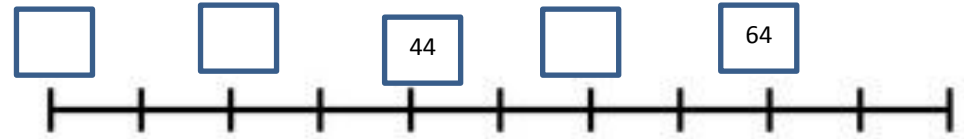
Greater Depth Challenge:

83, 63, 43, 23

What the rule is for this pattern?

Greater Depth Challenge:

Fill in the missing numbers in the number line.



What other numbers can you show?

Learning focus

- Add or subtract two two-digit numbers, where:
- the ones do not cross a tens boundary, such as  $21 + 37$  or  $56 - 23$ ;
  - the ones do cross a tens boundary and bridging is required, such as  $36 + 48$  or  $45 - 27$ .

Greater Depth Challenge:

**$30 + 10 =$**

**$38 + 2 =$**

**$28 + 6 =$**

**$27 + 10 =$**

**$47 + 26 =$**

Which calculations are hard to do?

Which calculations are easy?

Explain your reasons.

Greater Depth Challenge:

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1 | ? | + | 4 | ? | = | 5 | 7 |
|---|---|---|---|---|---|---|---|

Fill in the missing digits.

How many ways can you solve this?

Greater Depth Challenge:

Each line needs to total 15. Fill in the missing boxes.

|   |   |   |
|---|---|---|
|   |   |   |
| 3 | 5 |   |
|   |   | 6 |

Greater Depth Challenge:

$$\square + 3 + 6 = 10 + \square$$

Fill in the boxes. How many ways can you think of?

Greater Depth Challenge:



Can you explain what method would you use to solve this problem.

$$\mathbf{1 + 2 + 5}$$

**or**

$$\mathbf{5 + 2 + 1}$$



**Addition and Subtraction:** Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.

Learning focus

- ☐ Use knowledge that addition can be done in any
- ☐ Know subtraction cannot be done in any order, such as  $9 - 4$  does not give the same answer as  $4 - 9$ ,

Greater Depth Challenge:

**True or false?**

$$9 - 4 = 4 - 9$$

Greater Depth Challenge:

Fill in the equations below

|   |   |
|---|---|
| 3 | ? |
| 9 |   |

$$\underline{\quad} = \underline{\quad} + \underline{\quad}$$

$$\underline{\quad} = \underline{\quad} + \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

**Addition and Subtraction: recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.**

|                |                                                                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning focus | Explore inverse operations<br>Apply inverse operations to missing number problems<br>? Use addition to check the answer to subtraction calculations and subtraction to check addition. |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Greater Depth Challenge:

|    |   |
|----|---|
| 17 | ? |
| 34 |   |

Look at the picture. Complete these using the picture:

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Greater Depth Challenge:

Complete and then match up these equations, one has been done for you.

|                               |
|-------------------------------|
| $27 + \underline{\quad} = 34$ |
| $45 - \underline{\quad} = 39$ |
| $\underline{\quad} + 35 = 55$ |

|                               |
|-------------------------------|
| $55 - 20 = \underline{\quad}$ |
| $\underline{\quad} - 27 = 7$  |
| $39 + 6 = \underline{\quad}$  |

Explain how you solved these problems.

**Addition and Subtraction: Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures.**

|                |                                                                                                                                                                                                              |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning focus | <ul style="list-style-type: none"> <li>☐ Solve problems using a range of concrete objects and pictorial representations:</li> <li>☐ Select apparatus and representations appropriate to the task.</li> </ul> |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

MathsHUBS  
London South West

Greater Depth Challenge:

Someone has removed the boxes. Put some boxes on the scale.

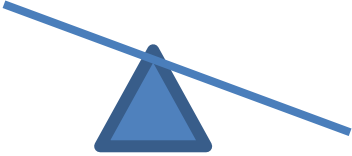
25g

18g

43g

53g

10g



MathsHUBS  
London South West

Greater Depth Challenge:

Sam used 4 methods to present a problem. Can you comment on each method?  
There were 32 children in a class. 17 were girls. How many were boys?

Method 1.  $32 - 15 = 17$

Method 2.

|    |   |
|----|---|
| 32 |   |
| 17 | ? |

Method 3.  $32 - 17 = 17$

Method 4.  $32 - 17 = 15$