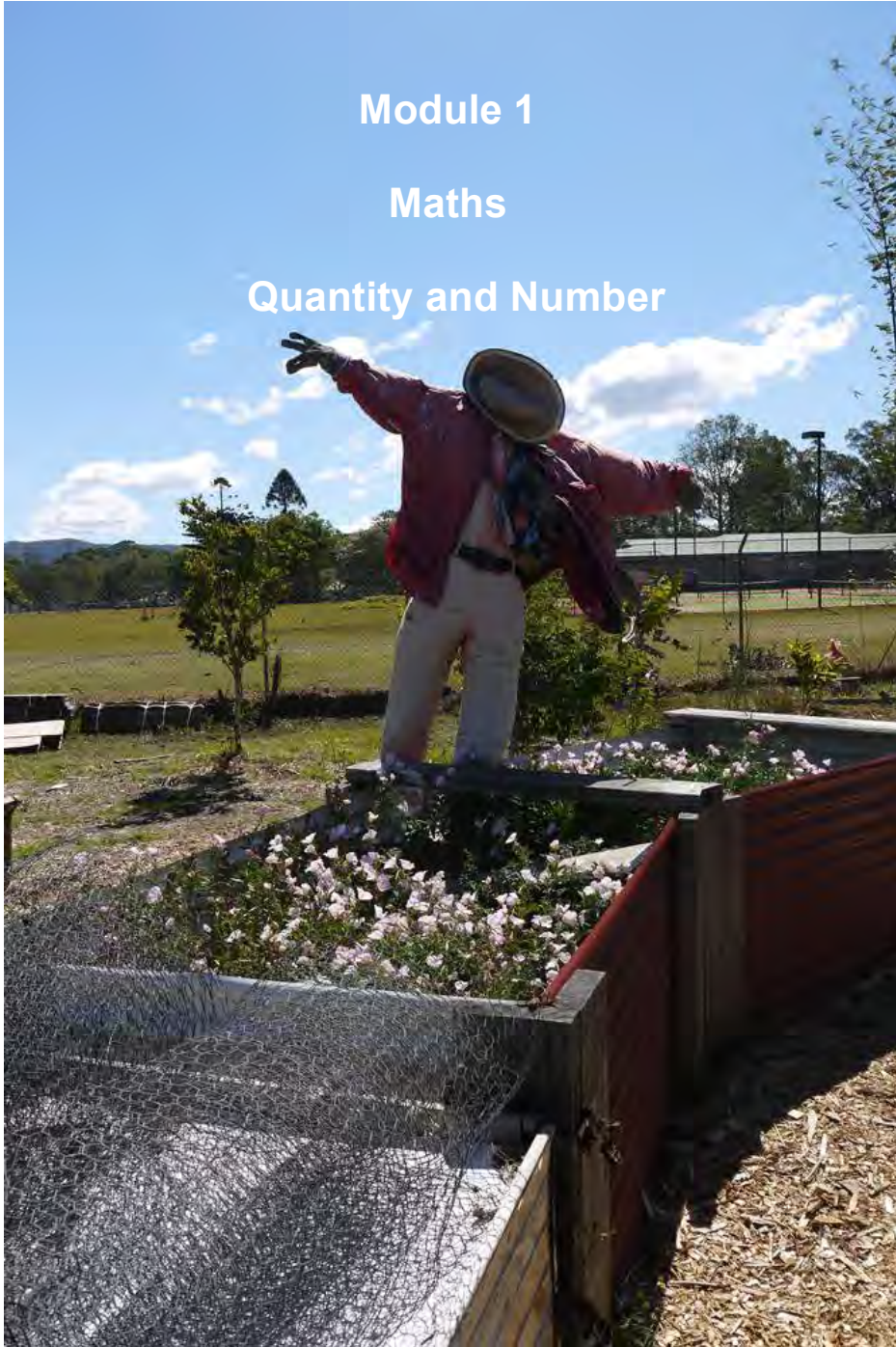


# Module 1

## Maths

### Quantity and Number



## Tutor notes

This module introduces the learner to:

- recognising numbers up to 100 (**ACSF Numeracy level 1: 1.09**)
- recognising the relationship between 100 and common large numbers (**ACSF Numeracy level 1: 1.09**)
- knowing place value in relation to units, tens, hundreds (**ACSF Numeracy level 1: 1.10**)
- adding two digit whole numbers that total less than 100 in the context of an everyday situation (**ACSF Numeracy level 1: 1.11**)
- subtracting two digit numbers that require number bonding up to 10 in the context of an everyday situation (**ACSF Numeracy level 1: 1.11**)
- using the plus, minus and equals signs and operations (**ACSF Numeracy level 1: 1.11**)
- estimating quantities to the nearest value of in broad terms (**ACSF Numeracy level 1: 1.10**)

Some of the Quantity and Number worksheets can also be used in the Writing and Horticulture modules. This module provides the learner with an opportunity to combine learning from other modules when completing worksheets and allows the tutor to monitor progress throughout the Learning through Gardening (LG) program.

The following is a summary of Learning Outcomes for this module:

- Recognise numbers up to 100

Numbers will be used for the dates on all worksheets. The Garden Diary and Record of seeds sown worksheets require numbers to be recognised and recorded particularly for the temperature readings. Learners can learn about Centigrade and Fahrenheit and how to read temperature before attempting the resource pack worksheet, for help with explaining temperature go to [www.weatherwizkids.com](http://www.weatherwizkids.com) or [www.instructorweb.com](http://www.instructorweb.com). For resources in measuring the weather: <https://www.teachervision.com/weather/teacher-resources/6675.html>. Learners can fill in order forms from seed catalogues. Tutors can use every opportunity to count – people, tools, trees and flowers etc. and to both record and say how many there are. For the 'Mental Maths Dice Game': [www.skillsworkshop.org](http://www.skillsworkshop.org). For the 100 chart: <http://www.themathsworksheetsite.com>.

Recognise the relationship between 100 and common large numbers for example, 1,000, 100,000, 1 billion. See useful websites above for worksheets.

- Know place value in relation to units, tens, hundreds (see useful websites above).

- Add two digit whole numbers that total less than 100 in the context of an everyday situation. Learners will need to have acquired basic knowledge of (metric) measurement and money (Euros) including how to write the signs correctly. Learners can fill in order forms from seed catalogues.
- Subtract two digit whole numbers that require number bonding up to 10 in the context of an everyday situation. There are instructions for 'Mental Maths Dice Game' at [www.skillsworkshop.org](http://www.skillsworkshop.org) – simple addition (number bonding)
- Use the plus, minus and equals signs and operations. This is relevant in many worksheets and will have been explained by the tutor before using the worksheet.
- Estimate quantities to the nearest value of in broad terms. Estimating can be practised with prices in garden centres and online shopping for plants and seeds. Estimating and rounding up and down requires a lot of practice from the learners before attempting the worksheets. Supermarket flyers are also useful for this.

The worksheets included here are intended as a guide. Tutors will need to give their learners extensive practice with numbers and it is recommended that website worksheets are accessed and used where applicable.

Many of the worksheets in this Maths module fulfil several learning outcomes.

Useful websites for all the Maths learning outcomes include:

[www.southtippals.com](http://www.southtippals.com)

<http://www.bbc.co.uk/skillswise/topic-group/numbers>

[www.abcteach.com](http://www.abcteach.com)

**Module 1 Maths, Quantity & Number (M2N05)**

**Learning Outcome & Worksheet Summary**

Learning Outcome	How to achieve learning outcome	Completed Y/N
(1) Recognise numbers up to 100	WS Garden diary Dominoes game WS Missing numbers WS Thermometer 1 & 2 WS Ordering seeds Seed catalogue order forms Tutor observation	
(2) Recognise the relationship between 100 and common large numbers for example, 1,000, 100,000, 1 billion	WS Place value 1 & 2 Tutor observation	
(3) Know place value in relation to units, tens, hundreds	WS Place value 2 Tutor observation	
(4) Add two digit whole numbers that total less than 100 in the context of an everyday situation	WS How much? WS Addition 1 & 2 WS Weeds 4 WS How much change. WS Addition & minus 1 & 2 Seed catalogue order forms	

	Tutor observation	
<p><b>(5) Subtract two digit whole numbers that require number bonding up to 10 in the context of an everyday situation</b></p>	<p>WS Minus 1 &amp; 2            WS How much change?            WS Addition and minus 1 &amp; 2            Tutor observation</p>	
<p><b>(6) Use the plus, minus and equals signs and operations</b></p>	<p>WS Signs 1 + 2            WS Addition 1 &amp; 2            WS Minus 1 &amp; 2            WS How much change?            WS Addition and minus 1 &amp; 2            WS Weeds 4            WS How much?            Tutor observation</p>	
<p><b>(7) Estimate quantities to the nearest value of in broad terms</b></p>	<p>WS Rounding numbers 1 &amp; 2            WS Estimating 1 &amp; 2            Seed catalogue order forms</p>	

## Tutor notes

### Playing Dominoes

The game pieces have been adapted from the traditional game by replacing the familiar dots with numbers and number names. In order to give learners practice with number 7 rather than with nought/zero, the latter has been changed to 7.

We suggest that the pieces are stuck onto thick card, then cut out and laminated. The three games that follow are adapted from suggested Domino games for children.

All games for 2 (or 3) players.

### 1. Garden Patch Dominoes

- ❖ Shuffle Dominoes and lay out face down
- ❖ Each player takes 7 (or 5) Dominoes & lays them out with the number side up in front of them
- ❖ The player with the highest count on one of their Dominoes begins by laying it down
- ❖ Clockwise & in turn, the players place a Domino from their 'hand', next to one of either open end that matches the number (either word or figure)
- ❖ Players without a match must pass
- ❖ Continue until a winner has no more Dominoes or no one has a match
- ❖ If no one has a match the winner is the one who has the least total amount of their numbers - both figure & word - on all of their remaining Dominoes. (Learners can write out a sum and/or use calculators)
- ❖ If a tie occurs, the player with a Domino with the lowest amount wins. (Level 1 learners finish the game here)
- ❖ (For Level 2, the winner of a round earns the grand total of all the other players' totals)
- ❖ Learners play rounds until the overall winner reaches a score of 50 or 100



## Tutor notes

### 2. Secret Garden Dominoes

- ❖ Shuffle & lay the Dominoes out face down
- ❖ Each player chooses one Domino and the one with the highest total Domino goes first
- ❖ Each player takes 14 (or 9) pieces
- ❖ Players keep their Dominoes face down with the numbers hidden
- ❖ The first player picks up one of their own Dominoes & turns it over
- ❖ They then reveal another
- ❖ If the number (or number name) on one of the sides can be matched to a number (or number name) on the side of the Domino just placed, it is put down next to it
- ❖ This player continues taking Dominoes until a match cannot be made
- ❖ That piece is placed face down into their own pile and the next player takes a turn
- ❖ Play continues until a winner gets rid of all their Dominoes or nobody can make a play
- ❖ The player with the lowest total in their hand wins

### 3. Garden Centre Dominoes















(Similar to Garden Patch Dominoes 1.)

- ❖ This game uses the leftover Dominoes not used in the players' hands, as in Garden patch Dominoes
  - ❖ If a player cannot make a match on one of the open ends, they must take a Domino from the 'Garden centre' and add it to their hand until they draw one that can be played
  - ❖ Once the 'Garden centre' is empty, players with no matches must pass
  - ❖ Play continues until a winner has gotten rid of their entire hand, or until no player has a match
- ❖ Points and winners are determined the same as in Garden Patch Dominoes 1.



















# DOMINOES

7		one	5		one
7		two	9		six
7		three	9		five
7		four	9		four
7		five	9		three
7		six	9		two
7		seven	9		one



# DOMINOES

1		one	5		two
1		two	5		three
2		two	5		four
1		three	5		five
2		three	4		one
3		three	4		two
4		four	4		three

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Garden Diary

1. The weather today is:



2. Temperature in tunnel \_\_\_\_\_<sup>o</sup>C in garden \_\_\_\_\_<sup>o</sup>C



3. Today in the garden I learnt \_\_\_\_\_

4. The tasks I carried out were \_\_\_\_\_

5. Next class I will \_\_\_\_\_

6. I worked with \_\_\_\_\_



Name: \_\_\_\_\_ Date: \_\_\_\_\_

PLANT/SEED NAME	DATE OF SEEDING	DATE OF POTTING ON or PLANTING OUT	NOTES	PLANT CARE

**VEGETABLE GARDEN - RECORD OF SEEDS SOWN**



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Missing numbers

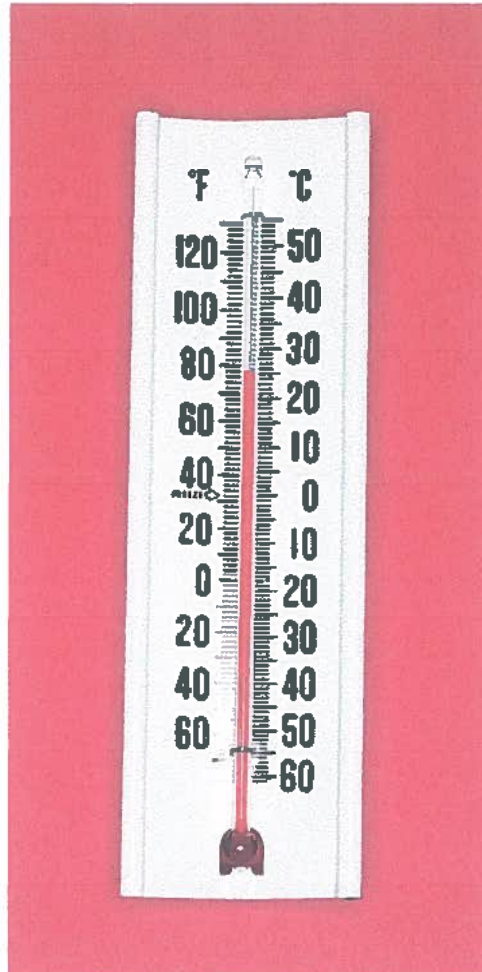
Fill in the missing numbers in the number square below:

1		3		5					10
	12					17		19	
			24						
31							38		
		43							
					56				
	62								
			74					79	
81				85					
								99	



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Thermometer 1



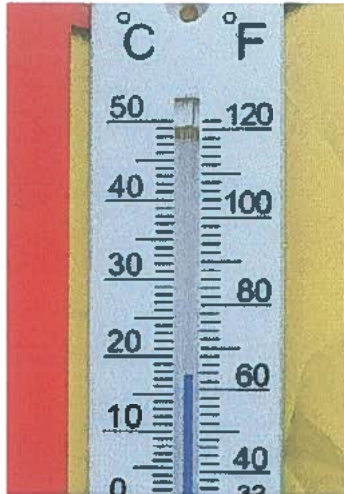
Match the thermometer reading to the correct temperature below:

40<sup>0</sup> F    25<sup>0</sup> C    100<sup>0</sup> F    10<sup>0</sup> C    78<sup>0</sup> F    35<sup>0</sup> C

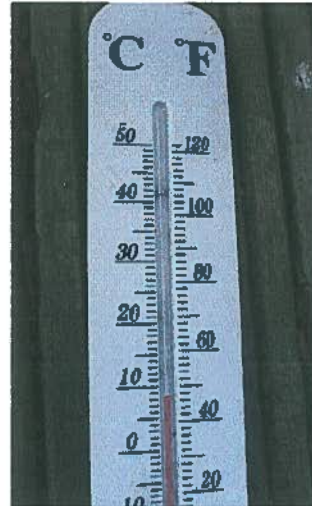
Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Thermometer 2

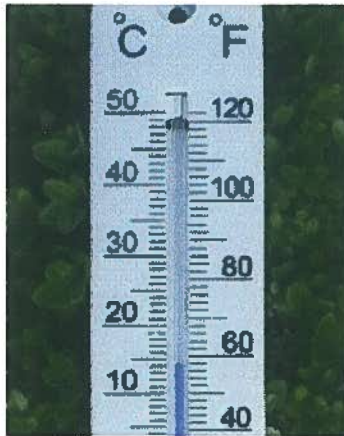
Write the temperature below each picture in degrees ( $^{\circ}$ ) Centigrade.



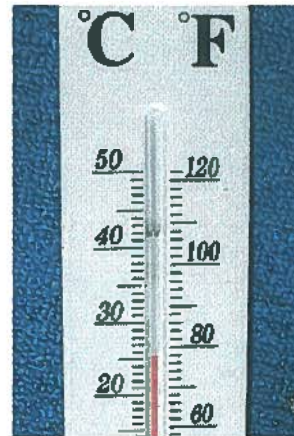
17 $^{\circ}$  C



\_\_\_ $^{\circ}$  C



\_\_\_ $^{\circ}$  C









\_\_\_ $^{\circ}$  C



Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Ordering seeds**

<p><b>96</b></p>  <p>Packet of pansy seeds €2.50</p>	<p><b>81</b></p>  <p>Packet of pumpkin seeds €4.50</p>	<p><b>77</b></p>  <p>Packet of tomato seeds €3.00</p>
<p><b>54</b></p>  <p>Packet of carrot seeds €1.50</p>	<p><b>89</b></p>  <p>Packet of daisy seeds €1.00</p>	<p><b>45</b></p>  <p>Packet of pea seeds €3.80</p>

Place your order for your choice of seeds. The product code is above the packet and the first one has been done for you.

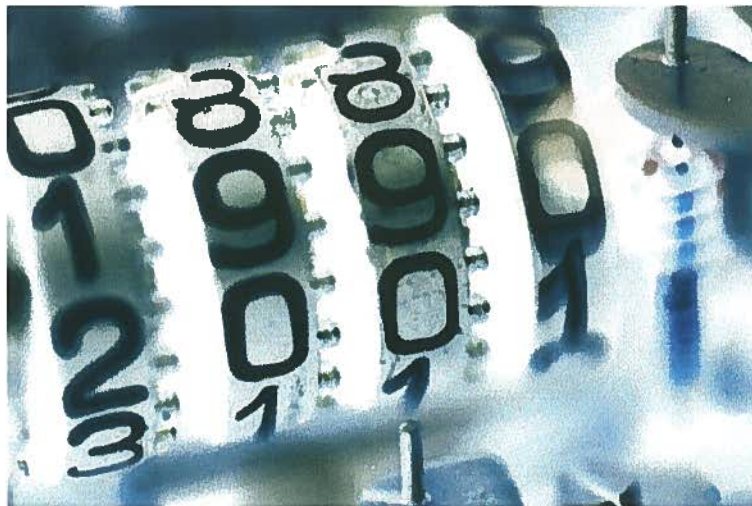
Quantity	Product code	Price	Total cost
1	96	€2.50	€2.50

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Place value 1

Fill in the numbers in the table below **backwards**, thousands, hundreds, tens and units. The first one is done for you.

Ten thousands	Thousands	Hundreds	Tens	Units
30,000	3,000	300	30	3
40,000				
90,000				
50,000				
70,000				
60,000				
10,000				
80,000				
20,000				



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Place value 2

Fill in the numbers in the table below in tens, hundreds, thousands and then ten thousands. The first one is done for you.

Ones	Tens	Hundreds	Thousands	Ten thousands
7	70	700	7,000	70,000
4				
9				
3				
5				
2				
8				
6				



Name: \_\_\_\_\_ Date: \_\_\_\_\_

**How much?**



Kale seeds 90 cents



Garden trowel €15



Garden rake €25



Compost bin €40



Seed labels €3



Tulip bulbs €5.50

**How much do all of these items cost?**

You can use a calculator to check your work.

€	c
Euro	cent

**Total**



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Addition 1

Add up the following, the first one is done for you:

- ✚ A blackcurrant bush for €6 and a pair of secateurs for €35  
 $€35 + €6 = \underline{€41.00}$

- ✚ Two spades at €25 each

\_\_\_\_\_

- ✚ A watering can at €45 and a rake for €25

\_\_\_\_\_

- ✚ Some bedding plants for €55 and a shrub for €8

\_\_\_\_\_

- ✚ Two plant propagators at €35 each

\_\_\_\_\_

- ✚ Three fruit trees at €15, €12 and €10 each



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Addition 2

Add up the following, the first one is done for you:

- ✚ The gardeners picked 15 courgettes and 32 tomatoes. How many fruit/vegetables did they pick altogether?

15+

32

Answer = 47

- ✚ Mary planted out the lettuce seedlings. She planted out 27 seedlings on Monday, 10 on Tuesday and 22 on Wednesday. How many did she plant out altogether?

Answer = \_\_\_\_\_

- ✚ The runner bean plant was 15 cm tall in April. It grew an extra 29 cm in May and 31 cm more in June. How tall was it?

Answer = \_\_\_\_\_

- ✚ The students harvested 45 red onions and 67 white onions. How many did they have altogether?

Answer = \_\_\_\_\_

- ✚ John was weeding and he pulled up 10 buttercups, 6 daisies and 5 dandelions. How many weeds did he pull up altogether?

Answer = \_\_\_\_\_



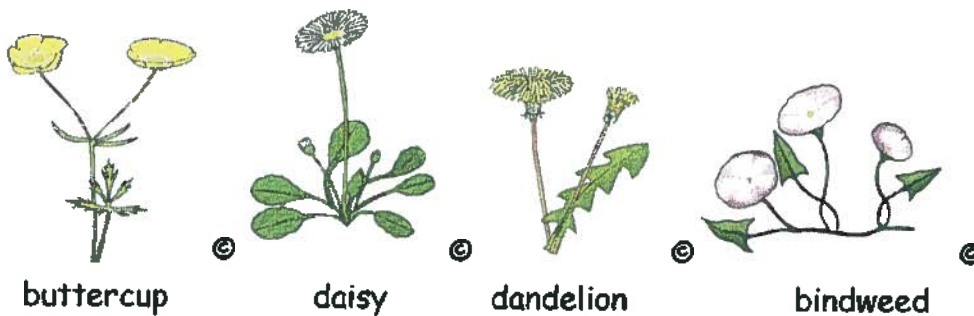


Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Weeds 4

A weed is a flower growing in the wrong place.

Find three kinds of weed. How many did you pull up altogether?



I pulled up  weeds altogether.

I pulled up  \_\_\_\_\_ and

I pulled up  \_\_\_\_\_ and

I pulled up  \_\_\_\_\_

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



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Minus 1

Calculate the following; the first one is done for you:

- ✚ Patrick had 100 cabbage plants. He gave 35 to his neighbour. How many has he left?

$$\begin{array}{r} 100- \\ \underline{35} \end{array}$$

Answer 65

- ✚ Julie sowed 46 pea seeds. Only 23 came up. How many seeds failed to germinate?

Answer = \_\_\_\_\_

- ✚ There are 31 students working in the polytunnel on Mondays. 14 work in the morning. How many work in the afternoon?

Answer = \_\_\_\_\_

- ✚ The centre had €88 in its garden account. The manager took out €24. How much is left?

Answer = \_\_\_\_\_

- ✚ The school bought 100 tulip bulbs. They planted 38 in window boxes and the rest in the garden. How many did they plant in the garden?

Answer = \_\_\_\_\_



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Minus 2

Calculate the following; the first one is done for you:

- ✚ Sheila bought 48 pansy plants. She planted out 24. How many were left?

$$\begin{array}{r} 48- \\ \underline{24} \\ \text{Answer } 24 \end{array}$$

- ✚ Jerry had €100 to go shopping with. He spent €52 on fruit bushes. How much did he have left to spend on trees?

Answer = \_\_\_\_\_

- ✚ What change will I get out of €50 if I spend €25 on a pair of hedge clippers?

Answer = \_\_\_\_\_

- ✚ There were 100 sections in the seed tray. Lucy sowed beetroot seed in 30 of them. How many sections did she have left for spinach seeds?

Answer = \_\_\_\_\_







- ✚ Sarah sowed 36 broad bean seeds. Only 23 seeds came up. How many failed?



Answer = \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**How much change?**

 Packet of pansy seeds €2.50	 Packet of pumpkin seeds €4.50	 Packet of tomato seeds €3.00
 Packet of carrot seeds €1.50	 Packet of daisy seeds €1.00	 Packet of pea seeds €3.80

**How much change from €5.00 if you buy:**

- a) One packet of pansy seeds      €5.00 - €2.50 = €2.50
- b) One packet of pea seeds      \_\_\_\_\_
- c) Three packets of carrot seeds      \_\_\_\_\_
- d) Two packets of daisy seeds      \_\_\_\_\_
- e) One packet of tomato seeds      \_\_\_\_\_
- f) Two packets of pansy seeds      \_\_\_\_\_
- g) One packet of pumpkin seeds      \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Addition and minus 1

Mary bought a rake for the garden which cost her €22.50 and she also bought a spade for €30.00. How much did Mary pay for both items?

€  
€ \_\_\_\_\_ +  
€

She gave the assistant in the garden centre €70.00. How much change did Mary get back?

€  
€ \_\_\_\_\_ -  
€



.....

Ann bought a composting bin which cost her €100.00 and a watering can for €40.00.

How much did she pay for both items? €  
€ \_\_\_\_\_ +  
€

Ann gave the shop assistant €150.00. What change did she get back?

€  
€ \_\_\_\_\_ -  
€



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Addition and minus 2

Sean bought a cherry tree for €20.00 and a walnut tree for €25.50. How much did that cost?

€  
€ \_\_\_\_\_ +  
€

Sean gave the assistant in the garden centre €50.00.

How much change did he get?

€  
€ \_\_\_\_\_ -  
€



Michael bought a bird nesting box which cost him €40.00 and he bought a bird feeder for €20.00.

How much did they both cost?

€  
€ \_\_\_\_\_ +  
€

Michael gave the shop assistant €100.00.

How much change did he get back?

€  
€ \_\_\_\_\_ -  
€



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Signs 1

What do the following signs mean?

+

\_\_\_\_\_

-

\_\_\_\_\_

=

\_\_\_\_\_



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Signs 2

Fill in the missing sign in each of the sums below.

You will be using the + (plus), - (minus) and = (equals) signs.

$5 \quad 3 = 8$

$6 \quad 7 = 13$

$20 - 12 \quad 8$

$11 \quad 10 = 21$

$24 \quad 8 = 32$

$80 + 20 \quad 100$

$33 \quad 13 = 20$

$7 + 7 \quad 14$

$16 - 6 \quad 10$



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Rounding numbers 1

### Rounding numbers to the nearest 10

Numbers which end in **1, 2, 3, 4** are rounded **down**

Numbers which end in **5, 6, 7, 8, 9** are rounded **up**

Numbers which end in **0** are already rounded

For example: 84 is rounded down to 80

87 is rounded up to 90

85 is rounded up to 90

80 is already rounded

Round these numbers to the nearest **10**

The first one is done for you.

79 80      17 \_\_\_\_\_      48 \_\_\_\_\_

26 \_\_\_\_\_      72 \_\_\_\_\_      31 \_\_\_\_\_

90 \_\_\_\_\_      65 \_\_\_\_\_      17 \_\_\_\_\_

99 \_\_\_\_\_      42 \_\_\_\_\_      19 \_\_\_\_\_

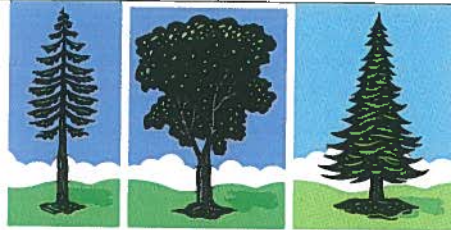


Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Rounding numbers 2

Round these shrub and tree prices to the nearest Euro:  
The first one is done for you.

€5.18	€5	€93.25	
€2.29		€26.40	
€44.15		€119.50	
€8.52		€99.59	
€1.84		€88.88	
€4.96		€67.99	
€91.35		€29.99	



Round these plant and herb prices to the nearest 10c:

€11.93	€11.90	99c	
68c		21c	
52c		€5.91	
€7.77		7c	
€2.28		61c	
€11.93		€1.99	
€25.68		€1.09	



Name: \_\_\_\_\_ Date: \_\_\_\_\_

Estimating 1

# Garden centre

Estimate the following seed packet prices to the nearest 10

Lettuce



€1.84

Poppy



€1.09

Strawberry



€2.34



€1.56



€0.75



€2.29

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Estimating 2

What is the estimated number in each sentence?

The first one is done for you.

✚ The seed packet contained 197 seeds. About 200

✚ There are 472 plant pots in the shed. \_\_\_\_\_

✚ You get 17 cucumbers per plant. \_\_\_\_\_

✚ It takes 56 days to grow radishes. \_\_\_\_\_

✚ The centre has raised 280 bedding plants. \_\_\_\_\_

✚ There were 136 apples on the tree. \_\_\_\_\_



**Estimate which items cost about €10 and which cost €100:**

	About €10	About €100
20 plant pots at 47 cents each	✓	
Gardening classes for 3 people at €35 each		
3 bags of seed compost at €3 each		
20 long bamboo canes at €4.50 each		
10 hyacinth bulbs at €1.20 each		
2 rolls of garden netting at €49 each		



