Clue 1 **Answers**

8	3	4	6	1	7	5	9	0	2

Round this number to the nearest 100 000:

2	8	7	6	4	0	3

Find the digit sum of this answer.

2 876 403 rounded to the nearest 100 000 = 2 900 000 = 2 + 9 = 11 = 1 + 1 = 2

This is the **first** digit of the number you need to reboot the candy cane machine.

2

Clue 2 **Answers**

🎄	🧦	🥧	🎅	🎁	⛄	🦌	🌿	🔔	🎄
8	3	4	6	1	7	5	9	0	2

Are these fractions calculations **true** or **false**?

$$\frac{3}{8} + \frac{1}{3} = \frac{17}{24}$$ **True**

$$\frac{5}{9} - \frac{1}{5} = \frac{16}{45}$$ **True**

$$\frac{2}{7} + \frac{1}{4} = \frac{13}{28}$$ **False**

$$\frac{6}{7} - \frac{3}{8} = \frac{27}{56}$$ **True**

If there are more true statements, then the second digit you need to reboot the candy cane machine: **5**
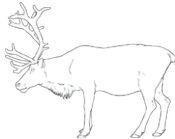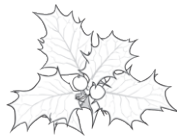
If there are more false statements, then the second digit you need to reboot the candy cane machine: **9**

5

Clue 3 **Answers**

Use the code breaker to reveal a mixed-up Christmas word.

A	B	C	D	E	F	G	H	I	J	K	L	M
180	210	240	270	280	330	360	420	440	480	490	540	560

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
630	660	720	770	810	840	880	960	990	1080	1210	1320	1440

Calculation	Answer	Letter
11 × 80	**880**	t
6 × 110	**660**	o
90 × 4	**360**	g
7 × 70	**490**	k

Calculation	Answer	Letter
____ ÷ 3 = 80	**240**	c
____ ÷ 11 = 40	**440**	i
____ ÷ 90 = 7	**630**	n
120 × 7	**840**	s

Turn over the matching object card to reveal the third digit you need to reboot the candy cane machine.

stocking = 8

Clue 4 **Answers**

Solve this number riddle by using inverse operations:
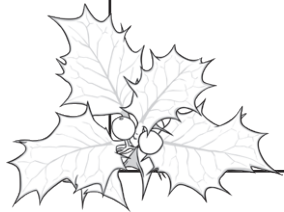
Patch the Elf is busy making yo-yos in Santa's Workshop.

I multiply the number of yo-yos Patch makes by 9.

I then subtract 90,
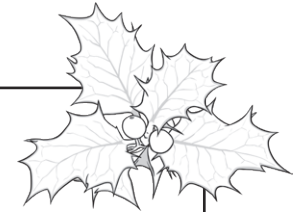
and divide by 7.

I end with the number 63.

How many yo-yos did Patch the Elf make? **59 yo-yos**

Find the digit sum of this answer.

59 = 5 + 9 = 14 = 1 + 4 = 5
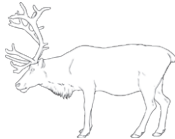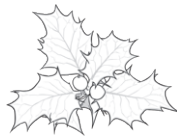
This is the **fourth** digit of the number you need to reboot the candy cane machine.

5

Clue 5 **Answers**

🎄	🧦	🥧	🎅	🎁	⛄	🦌	🍃	🔔	🍮
8	3	4	6	1	7	5	9	0	2

Calculate the answer to this addition calculation:

$$
\begin{array}{r}
7\;8\;0\;5\;9\;6 \\
5\;9\;6\;4\;8 \\
+ \quad 8\;6\;2\;1 \\
\hline
8\;4\;8\;8\;6\;5
\end{array}
$$

Find the digit sum of this answer.

8 + 4 + 8 + 8 + 6 + 5 = 39 = 3 + 9 = 12 = 1 + 2 = 3

This is the **fifth** digit of the number you need to reboot the candy cane machine.

3

Clue 6 **Answers**

🎄	🧦	🥧	🎅	🎁	⛄	🦌	🍃	🔔	🍮
8	3	4	6	1	7	5	9	0	2

Calculate the answer to this subtraction calculation:

```
    7 8 0 5 9 6 6
  −     9 6 4 8 8
  ─────────────────
    9 7 4 5 4 4 8
```

Find the digit sum of this answer.

9 + 7 + 4 + 5 + 4 + 4 + 8 = 41 = 4 + 1 = 5

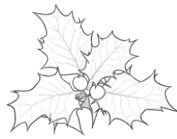This is the **sixth** digit of the number you need to reboot the candy cane machine.

5

Clue 7 **Answers**

How many reindeer are there? Find $\frac{4}{7}$ of this number.

This is the **seventh** digit you need to reboot the candy cane machine.

$\frac{4}{7}$ of 14 = **8**

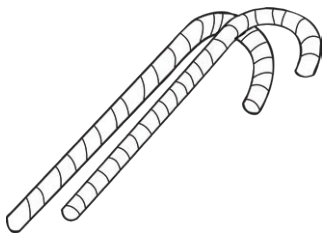# Clue 8 **Answers**

In just one hour, the Candy Cane Machine in Santa's Workshop makes between 210 to 240 candy canes.

Counted in sevens there are three left over. Counted in fours there are two left over.

How many candy canes were made?

Find the digit sum of this answer.

234 candy canes = 2 + 3 + 4 = 9

This is the **eighth** digit of the number you need to reboot the candy cane machine.

9

Clue 9 **Answers**

What is the coordinate position of the 🎄 ?

What is the coordinate position of the 🧦 ?

Add together the first number
(x-axis position) in each coordinate answer.

Christmas Pudding = (-3, 3)

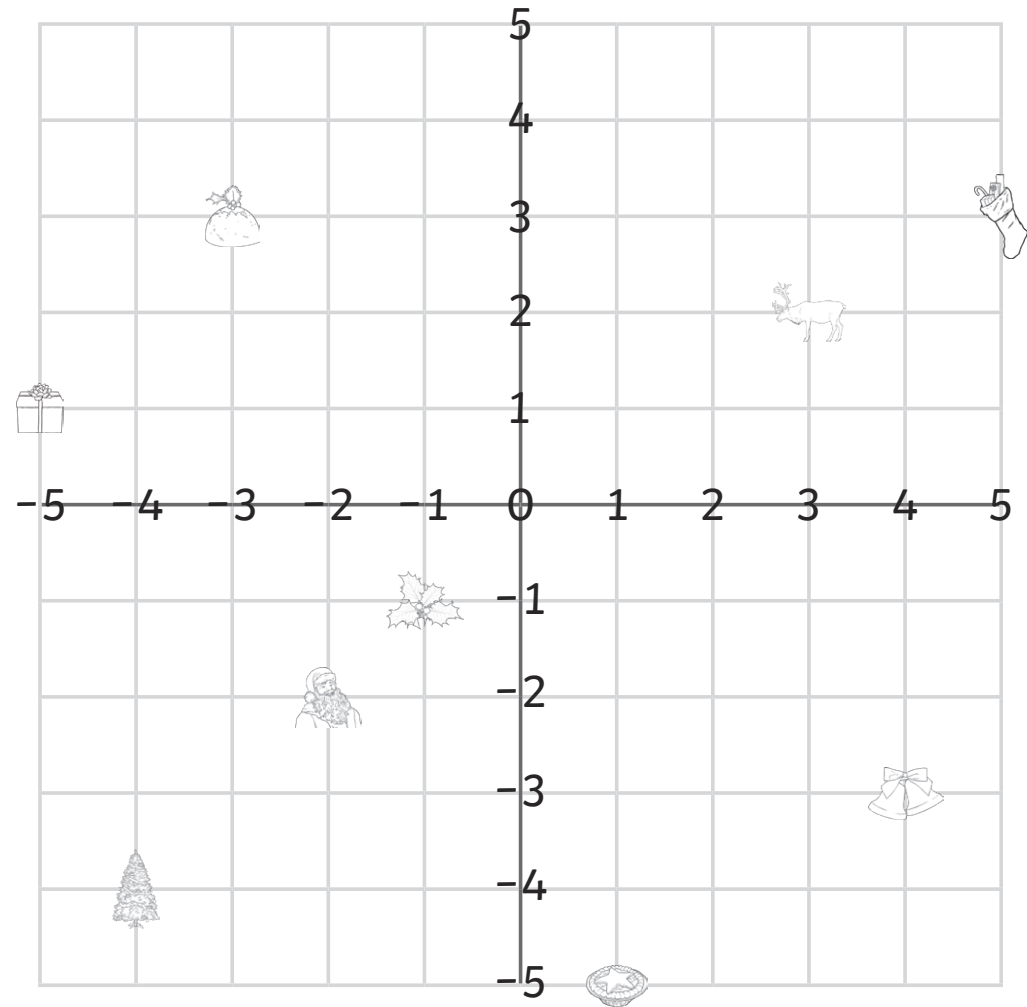**Stocking = (5,3)**

This is the **ninth** digit of the number you need to reboot the candy cane machine.
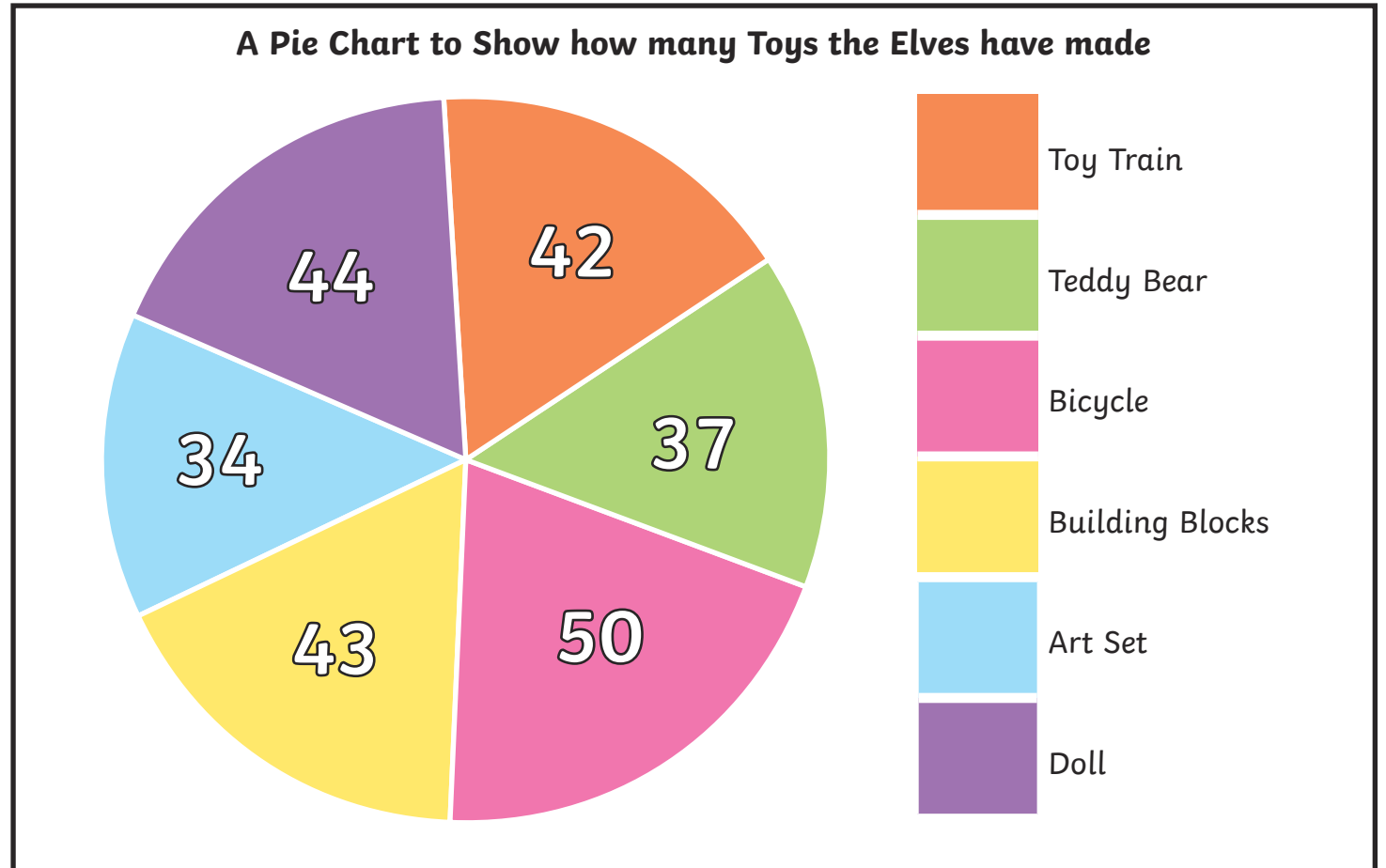
2

Clue 10 **Answers**

What fraction of the toys made by the elves are bicycles?

The elves made 250 toys altogether. They made 50 bicycles.

$$\frac{50}{250} = \frac{1}{5} = 5$$

A Pie Chart to Show how many Toys the Elves have made

Legend:
- Toy Train
- Teddy Bear
- Bicycle
- Building Blocks
- Art Set
- Doll

Pie chart values: 42, 37, 50, 43, 34, 44

The denominator of the answer will give you the **tenth** digit you need to reboot the candy cane machine.

5