Year 6

to

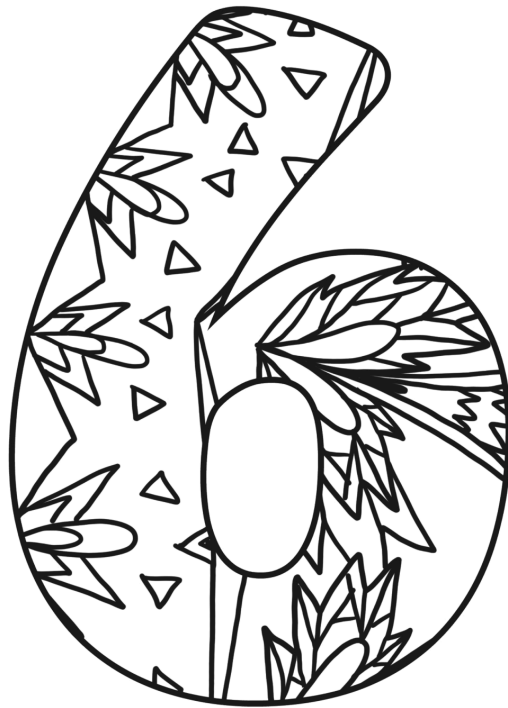## Year 7

Maths
Transition Workbook

Name:_____

Pie Charts

Work out the fraction of each amount.

a $\frac{1}{2}$ of 60   **b** $\frac{1}{4}$ of 32   **c** $\frac{1}{8}$ of 16

d $\frac{1}{3}$ of 120   **e** $\frac{1}{4}$ of 360   **f** $\frac{1}{8}$ of 260

Work out

a $\frac{1}{4}$ of 360   **b** $\frac{1}{6}$ of 360   **c** 50% of 180   **d** 30% of 360.

Interpreting Pie Charts

The pie chart shows the GCSE language choices of 100 students.

a Write the fraction of the students who study

   i Spanish

  ii German

 iii French

Emily calculates how many students study Spanish:

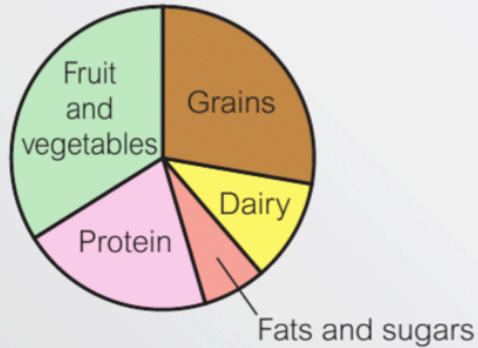$\frac{1}{2}$ of 100 students = 50 students

b Use Emily's method to calculate how many students study

   i German

  ii French

c Which is the most popular language?

GCSE language choices
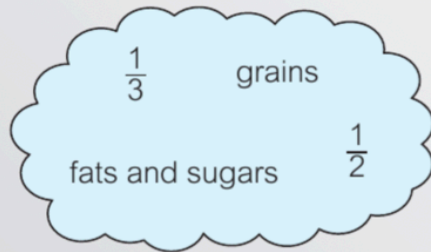

German | French

Spanish
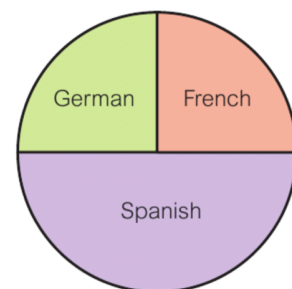
Independent Task

STEM This pie chart shows the proportions of food types to make up a healthy diet.

Use the words and fractions in the cloud to complete the sentences.
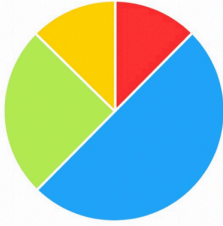

a Approximately _____ of your food should be fruit and vegetables.

b Just over $\frac{1}{4}$ of your food should be _____.

c More than _____ should be made up of fruit, vegatables and grains.

d The smallest category should be _____.

Choose one of the sections and answer the questions…

A Pie Chart to Show Children's
Favourite Animal

- 🔵 dog
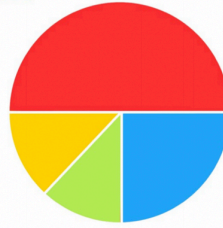- 🔴 parrot
- 🟡 hamster
- 🟢 cat

This pie chart represents **40 children**.

1. How many children chose dogs as their favourite pet?

2. How many children chose hamsters as their favourite pet?

3. How many children chose cats as their favourite pet?

4. How many children chose parrots as their favourite pet?

5. Which pet was the most popular?

6. Which pet was the least popular?

A Pie Chart to Show Children's
Favourite Season

- 🔵 Spring
- 🔴 Summer
- 🟡 Autumn
- 🟢 Winter

This pie chart represents **40 children**.

1. How many children chose Spring as their favourite season?

2. How many children chose Summer as their favourite season?

3. How many more children chose Summer as their favourite than those who chose Winter?

4. Using the information above, can you work out what the numbers would be if the survey was based on **8 children**?
a) Spring
b) Summer
c) Autumn
d) Winter

A Pie Chart to Show Children's
Favourite Subject

- 🔵 Art
- 🔴 History
- 🟡 English
- 🟢 PE
- 🟣 IT

This pie chart represents **80 children**.

1. How many children chose Art as their favourite subject?

2. How many children chose History as their favourite subject?

3. How many children chose English as their favourite subject?

4. How many children chose PE as their favourite subject?

5. Which subject was the most popular?

6. Which subject was the least popular?
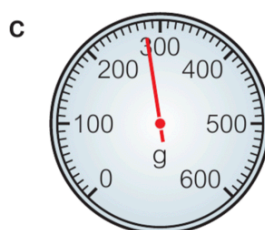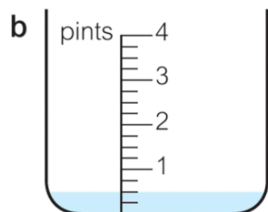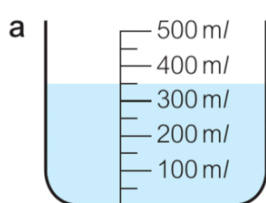
Decimals and Worded Problems

Connect

Write the next three terms in these decimal number sequences.

a 0.1, 0.3, 0.5, ..., ..., ...
b 0.8 m, 1.2 m, 1.6 m, ..., ..., ...
c 2.3, 2.2, 2.1, ..., ..., ...
d 1.9 kg, 1.6 kg, 1.3 kg, ..., ..., ...

Units and Reading Scales

STEM Write the value shown on each scale.

a
```
— 500 ml
— 400 ml
— 300 ml
— 200 ml
— 100 ml
```

b pints
```
—4
—3
—2
—1
```

c

300
200   400
100   500
0   600
g

a)_____

b)_____

c)_____

Independent Task

a What is the value of the 4 in each of these numbers?

  i 45.26   **ii** 12.54   **iii** 75.42   **iv** 24.68

b What is the value of the 2 in each of the numbers in part **a**?

c Which is larger, 3.4 or 3.24?

Ordering Decimals

Write these decimal numbers in order, from smallest to largest.

a 4.5   6.7   2.9   5.8   1.6

b 5.25   5.28   5.23   5.27   5.21

c 4.52   4.3   4.67   4.7   4.19

d 6.7   6.18   6.5   6.72   6.66

e 9.09   9.42   9.1   9.39   9.4

Exercise – Section A

Order the following decimal numbers from smallest to largest.

1.   0.5   0.4   0.2   0.7

2.   0.1   0.6   0.5   0.2

3.   0.3   0.1   0.6   0.4

4.   0.3   0.2   0.8   0.5

5.   0.4   0.9   0.6   0.8

Exercise – Section B

Order the following decimal numbers from smallest to largest.

1.   0.61   0.58   0.42   0.2   0.81

2.   0.57   0.29   0.14   0.48   0.26

3.   0.67   0.09   0.7   0.28   0.81

4.   0.03   0.86   0.49   0.71   0.94

5.   0.37   0.59   0.53   0.15   0.05

Exercise – Section C

Order the following decimal numbers from smallest to largest.

1.   0.086   0.011   0.012   0.099   0.046

2.   0.055   0.022   0.076   0.028   0.088

3.   0.032   0.083   0.046   0.06   0.069

4.   0.065   0.059   0.02   0.06   0.046

5.   0.099   0.04   0.097   0.051   0.08

Adding and Subtracting Decimals

Work out $4.6 + 2.7$ Work out $5.6 + 4.9$

Work out $4.5 - 3.2$ Work out $6.8 - 2.9$

Exercise

Decimals Addition

Work out the calculations.

a)	£3.45 + £5.92	b)	£8.45 + £4.21	c)	£4.11 + £6.47	d)	£4.21 + £1.54
e)	£5.01 + £7.42	f)	£6.42 + £2.98	g)	6.55m + 8.25m	h)	1.44m + 6.77m
i)	2.01m + 4.67m	j)	1.67m + 6.19m	k)	1.44m + 6.77m	l)	9.54m + 7.11m

Decimals Subtraction

Solve these calculations using a written method:

a) £12.63
   -£8.72
   _____

b) £17.42
   -£4.56
   _____

c) £27.89
   -£18.92
   _____

d) £76.62
   -£9.98
   _____

e) £26.76
   -£14.85
   _____

f) £82.83
   -£54.79
   _____

g) £63.27
   -£19.55
   _____

h) £28.95
   -£16.89
   _____

i) £167.63
   -£85.45
   _____

j) £123.78
   -£78.26
   _____

k) £547.32
   -£258.25
   _____

l) £345.28
   -£232.39
   _____

Worded Problems

1. **Problem-solving** What is the total length of two pipes measuring 1.6 m and 2.5 m?

2. **Problem-solving** Ahmed lives 6.4 km away from school and Jenna lives 3.7 km away. How much further away does Ahmed live?

3. **Problem-solving** How much heavier is 12.5 kg than 8.9 kg?

4. **Problem-solving** A chef has a 15 litre drum of oil. He has used 8.2 litres. How much does he have left?

5. **Problem-solving** A farmer buys 24 m of wire for fencing. He uses 8.5 m in one area and 12.8 m in another. How much does he have left?

6. **Real** Craig is a plumber. He has 7.45 m of tubing. He uses 3.75 m of the tubing. How much tubing does he have left over?

Multiplying and Dividing Decimals

Independent Task

Work out

a   36
      × 5
    _____

    _____

b   92
      × 7
    _____

    _____

Work out   **a** 5)385   **b** 4)112   **c** 7)315   **d** 6)558

Work out

a 6.1 × 3

b 4.4 × 6

Work out

c 8 × 7.4

d 2.9 × 9

Exercise

1. Pencils cost a school £0.07 each. A box holds 12 pencils. How much do 2 boxes cost the school?
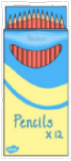
2. A set of miniature gauge railway track contains 18 pieces that are 0.3m long. How long would the railway be when all the pieces of track are put together?

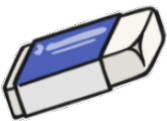3. A shop buys a box of 72 mini chocolate bars from a wholesaler for £0.05 each. How much does the box cost?

4. Small boxes of sultanas weigh 0.06kg each. How much will 54 boxes weigh?

5. A stationery shop buys rubbers for £0.03 each and sells them for £0.07. If the shop sells 123 in a month, what profit is made on the rubbers?

6. A hospital buys bottles of medicine. Each bottle contains 0.6 litres of medicine. How much medicine will be in a case of 15 bottles?

Work out

a $85.5 \div 5$

c $69.2 \div 4$

d $89.4 \div 6$

b $98.4 \div 3$

e $99.2 \div 8$

f $38.5 \div 7$

Worded Problems

1. **Problem-solving** A recipe for a fruit cake needs 0.3 kg flour. How much flour is needed for 4 cakes?

2. **Problem-solving** Ruth needs 4 pieces of 9.6 cm long string for her DT project. How much string does she need altogether?

3. **Problem-solving** Keiran makes 9 equal length tree stakes from a 2.7 m piece of wood. How long is each tree stake?

Money Calculations

Round these prices to the nearest £1.

a £34.71

b £7.86

c £11.25

d £54.92

e £21.50

Write these amounts in pounds.

a 63p = £0.6☐

b 57p

c 8p = £0.0☐

d 2p

e 10p

f 152p = £1. ☐☐

g 327p

Real Work out the change from £10 for each amount?
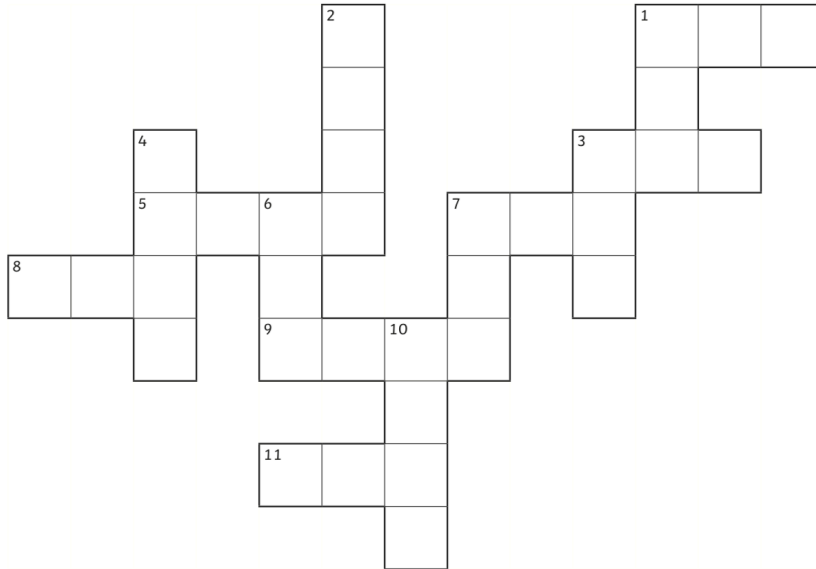
a £8.25

b £5.50

c £4.99

d £2.75

e £3.95

f £7.99

Problem-solving A holiday apartment for 6 people costs £830. How much will each person need to pay?

Finance A restaurant bill for 3 people comes to £45.73. How much does each person pay?

Number Cross

Use the summer-themed code to complete the number cross. Use written methods of multiplication to solve the number cross.

Across:

1.
3.
5.
7.
8.
9.
11.

Down:

1.
2.
3.
4.
6.
7.
10.

2	4	8	6	1	0	5	9	3	7

Calculations Code Breaker

Solve the calculations and use the code breaker to spell out a summer-themed joke. The joke will read down the tables.

A	B	C	D	E	F	G	H	I	J	K	L	M
6	15	21	5	13	24	18	7	12	1	25	19	9

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
22	16	11	26	2	17	20	3	10	8	14	23	4

	Answer	Letter
64 ÷ 8		
63 ÷ 9		
1300 ÷ 100		
0.02 × 100		
1.3 × 10		

	Answer	Letter
55 ÷ 11		
160 ÷ 10		

	Answer	Letter
0.24 × 100		
144 ÷ 12		
1700 ÷ 100		
56 ÷ 8		

	Answer	Letter
1.8 × 10		
1600 ÷ 100		

	Answer	Letter
4 × 4		
2.2 × 10		

	Answer	Letter
42 ÷ 6		
8 × 2		
190 ÷ 10		
96 ÷ 8		
0.5 × 10		
48 ÷ 8		
0.23 × 100		?

	Answer	Letter
3 × 8		
60 ÷ 5		
0.22 × 100		
1900 ÷ 100		
54 ÷ 9		
11 × 2		
0.05 × 100		

Question: _____

_____

Punchline: _____

Summer Number Puzzles

I collect some shells on the beach.

I multiply the number of shells by 5.

I then subtract 15,

multiply by 7,

and divide by 2.

I end with the number 735.

How many shells did I collect?
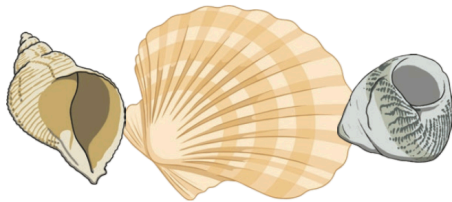
I decorate my sandcastle with flags.

I multiply the number of flags by 7.

I then add 78,

multiply by 4,

and divide by 3.

I end with the number 300.

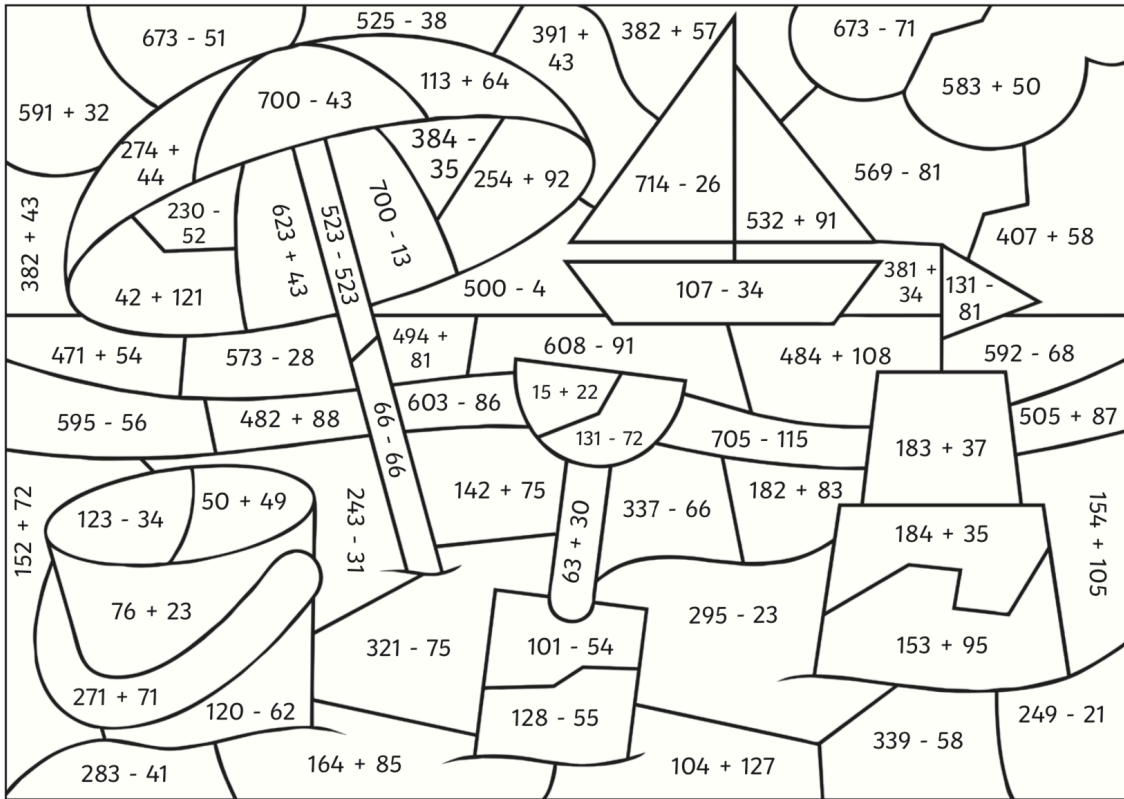How many flags did I use to decorate my sandcastle?

I practise cartwheels on the sand.

I multiply the number of cartwheels by 8.

I then subtract 132,

multiply by 10,

and divide by 4.

I end with the number 30.

How many cartwheels did I do?

Colour by Calculation

Use the key to colour the summer-themed picture.

Calculations
673 - 51
525 - 38
391 + 43
382 + 57
673 - 71
591 + 32
113 + 64
583 + 50
700 - 43
274 + 44
384 - 35
254 + 92
714 - 26
569 - 81
382 + 43
230 - 52
623 + 43
523 - 523
700 - 13
532 + 91
407 + 58
42 + 121
500 - 4
107 - 34
381 + 34
131 - 81
471 + 54
573 - 28
494 + 81
608 - 91
484 + 108
592 - 68
595 - 56
482 + 88
66 - 66
603 - 86
15 + 22
705 - 115
183 + 37
505 + 87
152 + 72
123 - 34
50 + 49
243 - 31
142 + 75
131 - 72
63 + 30
337 - 66
182 + 83
184 + 35
154 + 105
76 + 23
295 - 23
153 + 95
271 + 71
321 - 75
101 - 54
120 - 62
128 - 55
249 - 21
283 - 41
164 + 85
104 + 127
339 - 58

Grey:	Red:	Orange:	Yellow:	Green:	Light Blue:	Dark Blue:	White:
0	1 – 100	101 – 200	201 – 300	301 – 400	401 – 500	501 – 600	601 – 700

Ultimate Times Tables Missing Numbers Challenge

Name: _____   Number Correct: _____

Date: _____   Previous Score: _____

2 × ___ = 8	40 = ___ × 10	12 × ___ = 144	11 × 7 = ___	___ × 3 = 21	48 = 12 × ___
___ × 1 = 3	___ × 4 = 24	___ × 5 = 30	35 = ___ × 5	8 × ___ = 72	8 × ___ = 24
___ = 5 × 2	3 × ___ = 21	4 × ___ = 44	___ × 8 = 40	5 × 4 = ___	120 = ___ × 10
4 × ___ = 16	8 × 11 = ___	48 = 6 × ___	9 × ___ = 36	11 × ___ = 121	___ × 4 = 16
10 × ___ = 60	7 × ___ = 35	9 × ___ = 90	1 × ___ = 8	18 = 3 × ___	9 × ___ = 18
___ × 4 = 8	___ × 9 = 18	___ × 6 = 12	12 × 6 = ___	___ × 6 = 48	30 = ___ × 5
16 = 8 × ___	8 × ___ = 80	7 × 7 = ___	___ × 9 = 63	___ × 9 = 27	9 × ___ = 36
5 × 3 = ___	___ × 2 = 12	___ × 1 = 8	___ × 10 = 30	24 = 4 × ___	2 × ___ = 14
___ × 3 = 30	20 = ___ × 5	___ × 9 = 81	9 × ___ = 54	___ × 7 = 49	8 × 5 = ___
___ × 1 = 12	12 × ___ = 72	36 = 12 × ___	___ × 4 = 12	12 × ___ = 144	3 × ___ = 12
3 × ___ = 18	___ = 3 × 3	10 × 12 = ___	8 × ___ = 64	6 × ___ = 18	___ × 6 = 36
___ × 4 = 44	8 × ___ = 32	8 × ___ = 56	___ = 2 × 7	8 × ___ = 56	___ × 9 = 99
7 × ___ = 14	___ × 4 = 16	___ × 10 = 30	12 × ___ = 132	4 × 10 = ___	28 = 4 × ___
8 × 3 = ___	___ × 7 = 70	5 × ___ = 40	25 = ___ × 5	___ × 2 = 16	9 × 3 = ___
20 = 4 × ___	5 × ___ = 25	___ × 2 = 4	___ × 8 = 16	___ × 4 = 28	5 × ___ = 25
11 × ___ = 99	___ × 3 = 33	9 × 5 = ___	24 = 8 × ___	9 × ___ = 45	7 × ___ = 21
___ × 3 = 12	___ × 4 = 36	3 × ___ = 12	77 = 11 × ___	___ × 6 = 72	___ × 4 = 24
9 × ___ = 18	___ = 7 × 1	8 × ___ = 32	___ × 6 = 18	3 × 3 = ___	12 × ___ = 24
5 × 10 = ___	___ × 11 = 66	___ × 9 = 45	___ = 11 × 8	8 × ___ = 48	___ × 5 = 45
___ × 2 = 6	___ × 6 = 36	48 = ___ × 4	12 × ___ = 144	5 × ___ = 60	7 × ___ = 49
___ × 3 = 21	10 × ___ = 50	5 × ___ = 10	15 = ___ × 3	4 × ___ = 12	___ × 8 = 96
8 × ___ = 40	18 = ___ × 3	9 × 1 = ___	2 × ___ = 12	7 × ___ = 42	3 × ___ = 24
11 × 2 = ___	9 × ___ = 27	___ × 7 = 14	9 × ___ = 27	66 = ___ × 6	5 × ___ = 15
___ × 12 = 60	10 × 10 = ___	12 × ___ = 84	___ × 2 = 16	32 = 8 × ___	___ × 12 = 144

Pirate Flags

Use the dimensions to calculate the area of each pirate flag.
(Not drawn to scale)

87 cm

62 cm

41 cm

130 cm

97 cm

228 cm

56 cm

85 cm

37 cm
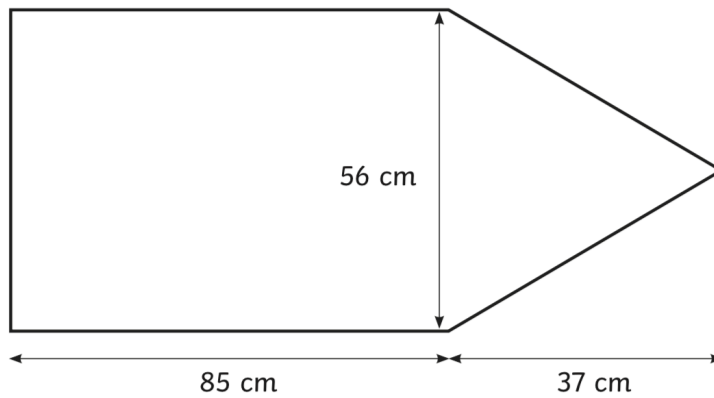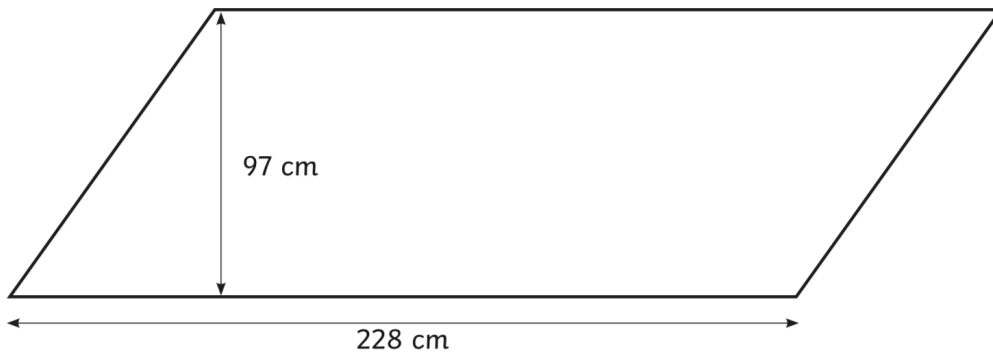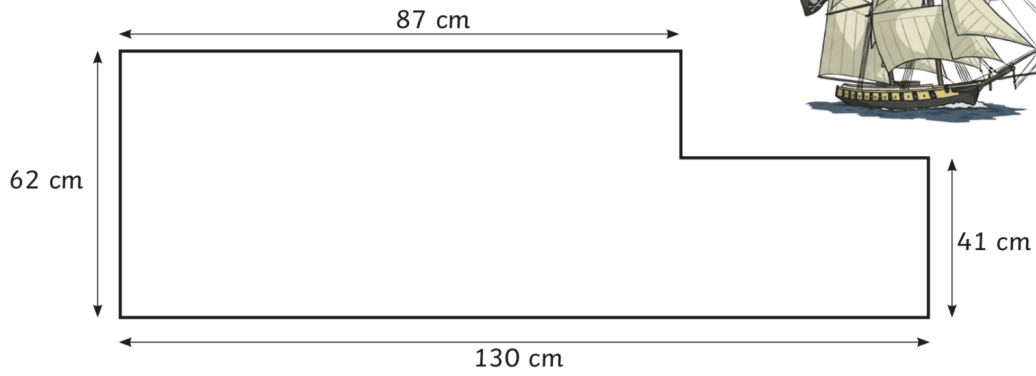
Summer-Themed Coordinate Translations

Write the coordinates of the summer-themed objects. Translate them and write the new coordinates.
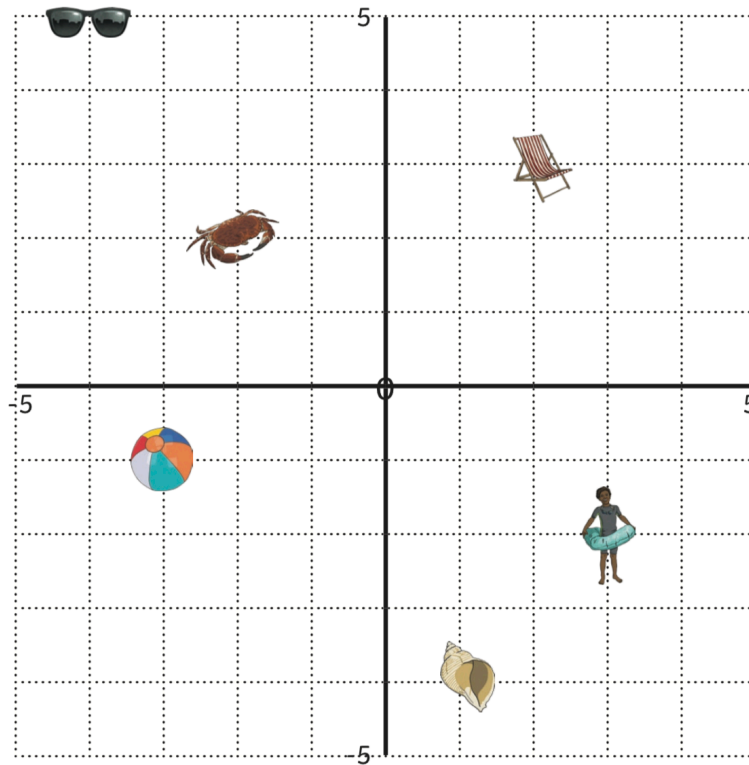
Object	Starting Coordinate	Translation	Finishing Coordinate
		Right 4, Up 6	
		Right 5, Down 7	
		Left 4, Down 3	
		Left 1, Up 2	
		Right 3, Down 1	
		Right 1, Up 2	