Mathletics

Series A, B & C

Problem Solving

Problem Solving Record Sheet

Name

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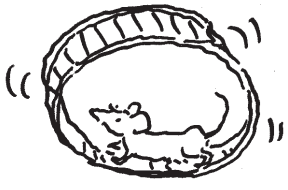


Answers

Read, plan, work and check

Worksheet 1

1 9 pencils **2** 5 apples **3** 5 cars **4** 5 boats
5 7 fish **6** 2 cats

Worksheet 2

1 12 years old **2** 12 buttons **3** 30 cm
4 3 hours **5** 5 clowns **6** 10

Worksheet 3

1 18 km **2** £44 **3** £12
4 Kelly: 2 sweets James: 6 sweets

Worksheet 4

1 5 flowers **2a** 19 pencils **b** 13 pencils **3** 8 books
4 460 pence

Worksheet 5

1 50 nails **2** 7 pieces **3** 40 turns **4** 10 bones

Worksheet 6

1 4 pages **2** 20 pence, 10 pence, 5 pence **3** 5 flowers
4 15 eggs

Worksheet 7

1 16 books **2** 4 books

Worksheet 8

1a 10 dolls **b** 5 dolls **c** 9 dolls **d** 11 dolls
e 4 dolls **f** 7 dolls **2** teacher check

Draw a diagram

Worksheet 1

30 animals

Worksheet 2

1 1 **2** 2 **3** 3 **4** 4

Worksheet 3

7 children; 10 blocks

Worksheet 4

6 cars; 6 pencils

Worksheet 5

7 marbles; 50 pens; 30 red pens; 20 blue pens

Worksheet 6

blue; 24 spacemen

Worksheet 7

8 eggs; 20 heads of lettuce

Worksheet 8

18 cm; fourth stair

Worksheet 9

1 28 **2** 6 **3** 22

Worksheet 10

1 15 stamps **2** £15; 8 posts

Worksheet 11

4 candles; 5 days

Worksheet 12

1 54 eyes **2** 23 tails **3** 100 legs **4** 27 heads

Worksheet 13

1 20 wheels **2** 11 cars **3a** 6 cars **b** 5 cars

Worksheet 14

1 10 jumps **2** 5 jumps **3** 4 jumps **4** 2 jumps

Worksheet 15

25 flats

Worksheet 16

1 10 **2** 6 **3** 5 **4** 3 **5** 1 **6** 7

Look for patterns

Worksheet 1

1a 3 **b** 2 **2** teacher check

Worksheet 2

1 blue **2** teacher check

Worksheet 3

1 teacher check
2 This is a growing/shrinking pattern and the rule depends on how you view the situation. As the student finishes the pattern it's add one. As the pattern builds, it is minus one. Both are acceptable.

Worksheet 4

1 +2 **2** +3 **3** +2

Worksheet 5

1 12; 10; 8; 6; Monday, 4; Tuesday, 2; Wednesday, 0; –2;

2 teacher check

Worksheet 6

1a 6 **b** 9 **c** 6, 12, 18 **2** teacher check

Worksheet 7

1 10 **2** 12

Worksheet 8

1 teacher check

2 1, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 49

3 2, 4, 5, 8, 9, 14, 16, 21, 22, 25, 26, 27, 28, 32, 33, 34, 35, 38, 39, 44, 46

Act it out

Worksheet 1

15 buttons; 38 balloons; 49 cars

Worksheet 2

1a 1 **b** 4 **c** 8 **d** 10 **e** 14 **f** 20 **2** teacher check

Worksheet 3

1 There are many different trains that can be made and students at this level do not have to find them all. What is important is that they realise that 12 carriages have been allocated to two trains already and 18 carriages remain to be distributed. Also, any trains they make need to have more than two but fewer than 10 carriages as we know there is a shortest and a longest train. They must also include the two trains in the total number of trains that can be made.

2 Answers will vary.
Examples include:
6 trains: 2, 3, 4, 5, 6, 10 = 30 carriages;
4 trains: 2, 9, 9, 10 = 30 carriages

Worksheet 4

1 dogs 4; pigs 8; horses 16; sheep 20

2 teacher check **3** dogs 1; pigs 2; horses 4; sheep 5

Worksheet 5

1 Russ sits in the back row behind Nelly.

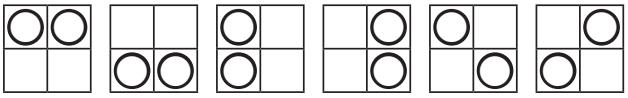
2 Front row: Aiko, Ginny, Jana; 2nd row: Tyron, Dale, Nelly; Back row: Kai, Don, Russ
OR
Front row: Jana, Ginny, Aiko; 2nd row: Nelly, Dale, Tyron; Back row: Russ, Don, Kai

Worksheet 6

teacher check

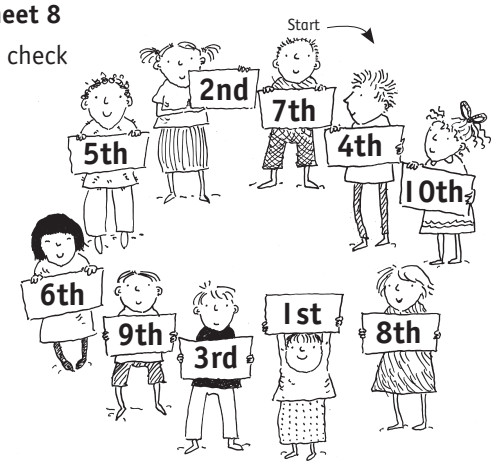
Worksheet 7

teacher check



Worksheet 8

teacher check



Trial and error

Worksheet 1

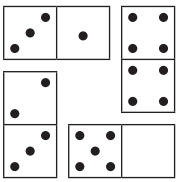
1 × 50p; 2 × 20p + 10p; 2 × 20p + 2 × 5p; 3 × 10p + 1 × 20p; 3 × 10p + 4 × 5p; 4 × 10p + 2 × 5p; 5 × 10p; 6 × 5p + 1 × 20p, 6 × 5p + 2 × 10p; 8 × 5p + 1 × 10p; 10 × 5p

Worksheet 2

12; Reece £9 Luke £4

Worksheet 3

teacher check



Worksheet 4

2; 5; 8

Worksheet 5

pink 3; blue 2; green 5

Worksheet 6

1 9 **2** 9 or 3 **3** 1 or 3 teacher check

Worksheet 7

5 kg, 1 kg or 4 kg, 2 kg or 3 kg, 3 kg

Worksheet 6

1	2
Vases	Flowers
2	12
3	8
4	6
6	4
8	3
12	2

Make a list

Worksheet 1

R	R	B	B	Y	Y
Y	B	Y	R	R	B
B	Y	R	Y	B	R

Worksheet 2

24

For each dog in 1st position, there are 6 options; eg:

Bella – Sherlock – Jango – Taz

Bella – Sherlock – Taz – Jango

Bella – Jango – Sherlock – Taz

Bella – Jango – Taz – Sherlock

Bella – Taz – Jango – Sherlock

Bella – Taz – Sherlock – Jango

Worksheet 3

2, 5, 8 2, 5, 10 2, 8, 10 5, 8, 10; 15; 23

Worksheet 4

1a 369, 396, 639, 693, 936, 963 **b** 963 **c** 369

2a 157, 175, 517, 571, 715, 751 **b** 751 **c** 157

Worksheet 5

24

For each item in 1st position, there are 6 options; eg:

marbles – pencil – sharpener – notebook

marbles – pencil – notebook – sharpener

marbles – sharpener – pencil – notebook

marbles – sharpener – notebook – pencil

marbles – notebook – sharpener – pencil

marbles – notebook – pencil – sharpener

Worksheet 6

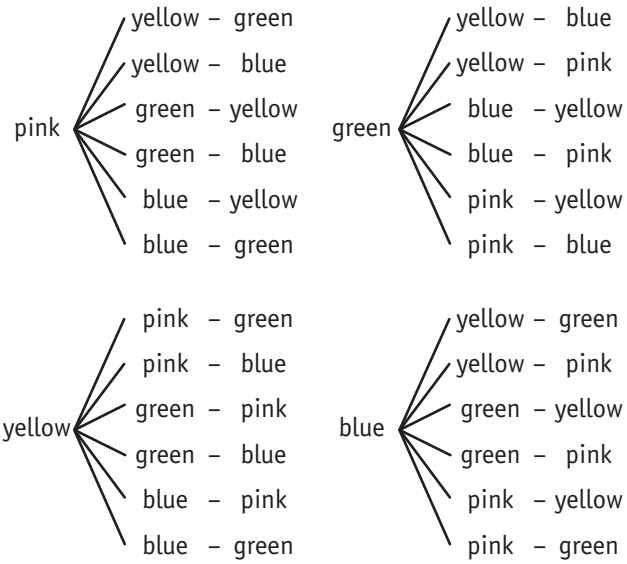
10 + 0; 1 + 9; 2 + 8; 3 + 7; 4 + 6; 5 + 5

AND/OR

commutative options: 6 + 4; 7 + 3; 8 + 2; 9 + 1

Worksheet 7

1



Worksheet 8

1 1 + 6; 2 + 5; 3 + 4; **2** 7 is the only number that is possible to make from all 2-dice combinations: 1 + 6; 2 + 5; 3 + 4; AND 6 + 1; 5 + 2; 4 + 3

Estimation

Worksheet 1

1 10 **2** 15 **3** 15 **4** 25

Worksheet 2

1 teacher check **2** 50

Worksheet 3

1 70 **2** 10 **3** 20

Worksheet 4

1 teacher check **2** 90

Worksheet 5

teacher check 6

Worksheet 6

1 30 **2** 50

Worksheet 7

1 20 **2** 60 **3** 40

Worksheet 8

1 19 **2** 16 **3** 21 **4** 17
5 17 **6** 10

Work backwards

Worksheet 1

£21; 22 fish

Worksheet 2

2 o'clock; 20 frogs

Worksheet 3

2 snakes; 20 shells

Worksheet 4

20 flowers; 4 sweets

Worksheet 5

1 20 years old **2** Meg Holly Toni Rosa
3 5 10 12 20

Worksheet 6

23 children

Worksheet 7

1 7 o'clock **2** 9 o'clock **3** 6 o'clock

Worksheet 8

1 20 jelly beans **2** teacher check

Open-ended

Worksheet 1

10	–	0
9	–	1
8	–	2
7	–	3
6	–	4
5	–	5

Worksheet 2

teacher check

Worksheet 3

teacher check

Worksheet 4

teacher check

Worksheet 5

1 21 **2** 28 **3** 36 45 55 66 78 91 105

Worksheet 6

1 + 2 + 3 + 4, 1 + 2 + 7, 1 + 3 + 6, 1 + 4 + 5, 1 + 9, 10

Worksheet 7

1 9 ways

2

Carton		Juice
1	×	100
2	×	50
4	×	25
5	×	20
10	×	10
20	×	5
25	×	4
50	×	2
100	×	1

Worksheet 8

teacher check