

Mathletics

Series D & E

Problem Solving



Problem Solving Record Sheet

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Answers

Draw a diagram

Worksheet 1

1b, 2c, 3a

Worksheet 2

1b, 2a, 3a

Worksheet 3

1a, 2a, 3c

Worksheet 4

1 36 2 13 3 15

Worksheet 5

teacher check number lines

1 2 m 2 £35 3 16 m 4 5:45 pm

Worksheet 6

1 1 x 36; 2 x 18; 3 x 12; 4 x 9; 6 x 6; 5 ways

2 1 x 24; 2 x 12; 3 x 8; 4 x 6; 4 ways

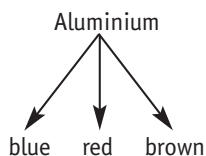
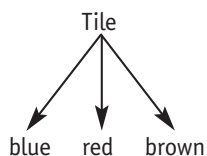
Worksheet 7

1 05, 06, 07; 05, 07, 06; 06, 05, 07; 06, 07, 05; 07, 05, 06;
07, 06, 05; 6 ways

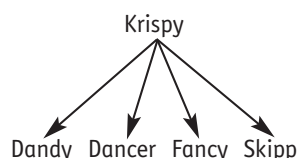
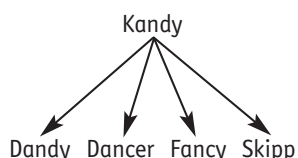
2 1, 1, 2, 3, 4; 1, 2, 4, 3; 1, 3, 2, 4; 1, 3, 4, 2; 1, 4, 2, 3;
1, 4, 3, 2; 2, 1, 3, 4; 2, 1, 4, 3; 2, 3, 1, 4; 2, 3, 4, 1;
2, 4, 1, 3; 2, 4, 3, 1; 3, 1, 2, 4; 3, 1, 4, 2; 3, 2, 1, 4;
3, 2, 4, 1; 3, 4, 1, 2; 3, 4, 2, 1; 4, 1, 2, 3; 4, 1, 3, 2;
4, 2, 1, 3; 4, 2, 3, 1; 4, 3, 1, 2; 4, 3, 2, 1; 24 ways

Worksheet 8

1 6 roofs



2 8 names



Look for patterns

Worksheet 1

teacher check

Worksheet 2

1 bottom row A, B, A, B, A – teacher check

2 3rd row B; 4th row B, A, B, A, B – teacher check

Worksheet 3

1 DA, FA, IA – teacher check

2 3.14, 3.22, 3.28, 3.30, 3.32 – teacher check

3 15L, 15M, 15N, 15O, 15P, 15Q, 15R, 15S, 15T
– teacher check

Worksheet 4

1a 20, 22, 24 (+2) b 17, 15, 13 (-2) c 90, 110, 130 (+20)

2a 53 - 40 (+5) b 10 - 9 (+2) c 52 - 50 (+10)

3a 20, 30, 70, 120 b 16, 20, 24, 30, 42, 70, 120
c 20, 30, 35, 65, 70, 85, 115, 120

4 multiples of 2, 5 and 10.

Worksheet 5

teacher check

Worksheet 6

1a teacher check b 2 triangles, 1 square c 2 d 10 e 1

2a teacher check b hexagon, circle, heart, heart, circle
c 5 d 2, 1, 2 e 15

3 teacher check

Worksheet 7

1 row 1 large leaf, row 3 small leaf; large and small alternate

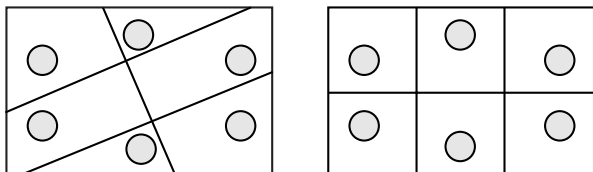
2 B, A; leaves turn 180° each time

Worksheet 8

game

Act it out

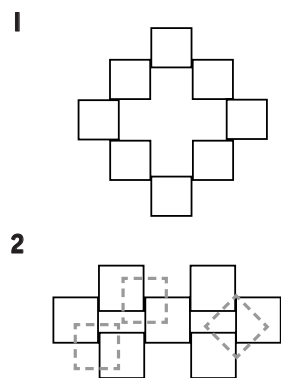
Worksheet 1



Worksheet 2

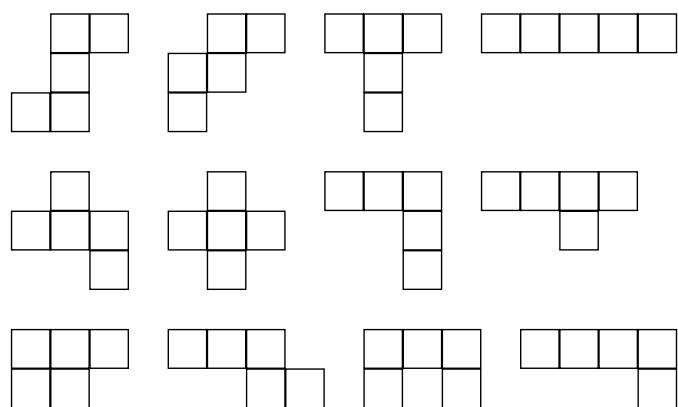
- 1 48; $4 \times 2 \times 6 = 48$
- 2 90; $3 \times 3 \times 10 = 90$
- 3 45; $5 \times 3 \times 3 = 45$
- 4 8; $1 \times 1 \times 36$, $1 \times 2 \times 18$, $1 \times 3 \times 12$, $1 \times 4 \times 9$, $1 \times 6 \times 6$, $2 \times 2 \times 9$, $2 \times 3 \times 6$, $3 \times 3 \times 4$

Worksheet 3



- 3 2, 2, 6 (or 2, 4, 4) $2 + 2 + 6 = 10$
- 4 1, 1, 9 (or 1, 3, 7 or 1, 5, 5 or 3, 3, 5 or 5, 5, 1) $1 + 9 = 11$
- 5 3, 9; $3 + 9 = 12$
- 6 4, 8; $4 + 8 = 12$

Worksheet 4



Worksheet 5

- 1 16
- 2 teacher check – many combinations
- 3 9 rows, 45 cards

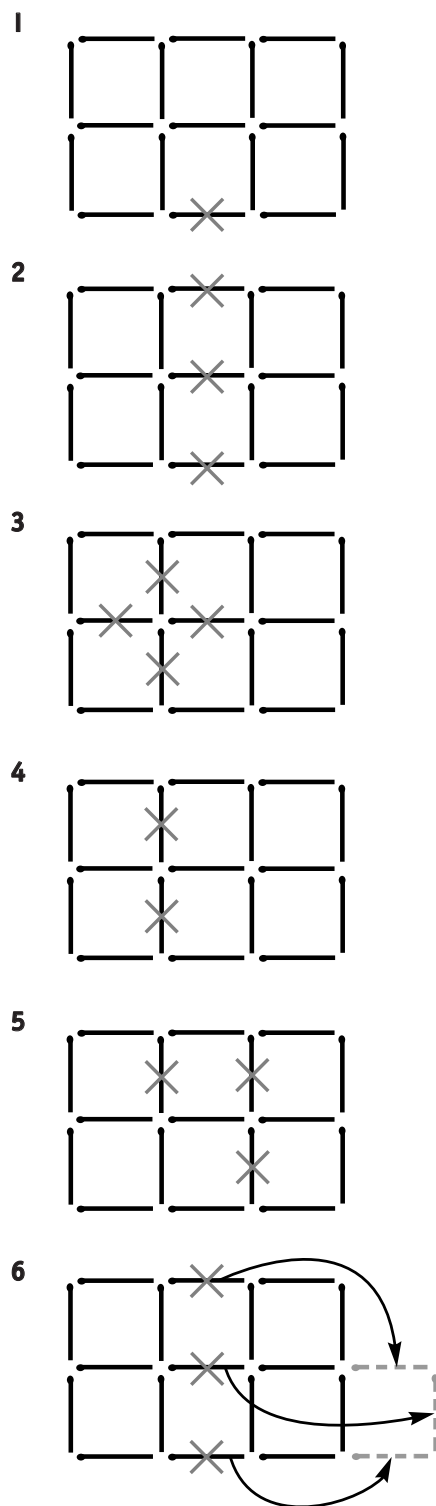
Worksheet 6

- 1 teacher check
- 2 24 km

Worksheet 7

game

Worksheet 8



Make a list

Worksheet 1

1 15 2 8 3 11 4 10 5 15 6 31 7 11

Worksheet 2

1a 6, 16, 18, 24, 30, 38, 40, 42

b 5, 9, 11, 15, 17, 25, 31, 37, 45, 65

c 5, 15, 25, 30, 40, 45, 65

d 6, 9, 15, 18, 24, 30, 42, 45

e 5, 6, 9, 11, 15, 16, 17, 18

f 31, 37, 38, 40, 42, 45, 65

2 9, 15, 45

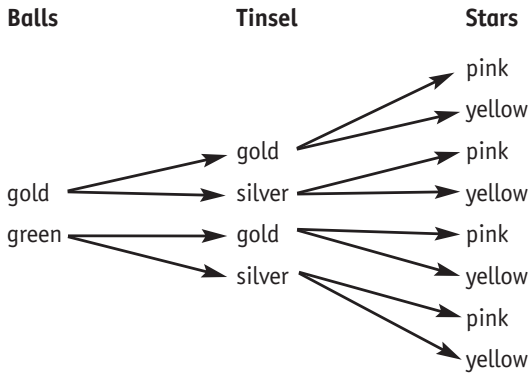
3 38, 40, 42

4 teacher check

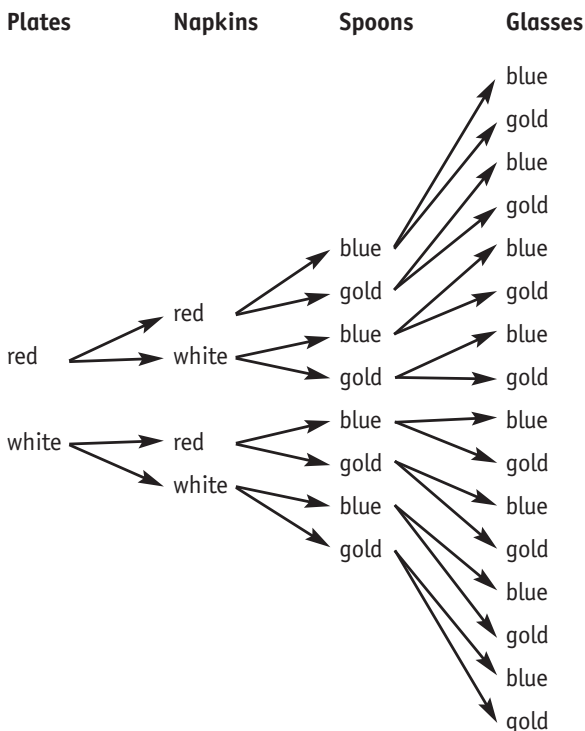
Worksheet 3

1 teacher check

2



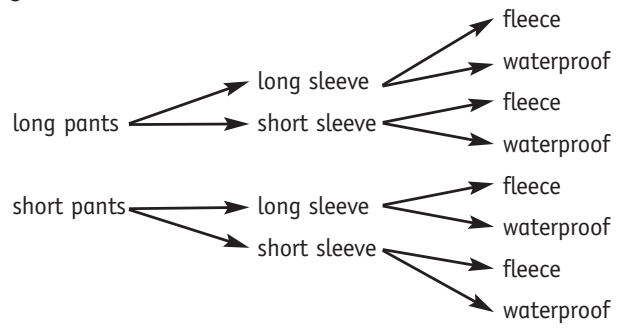
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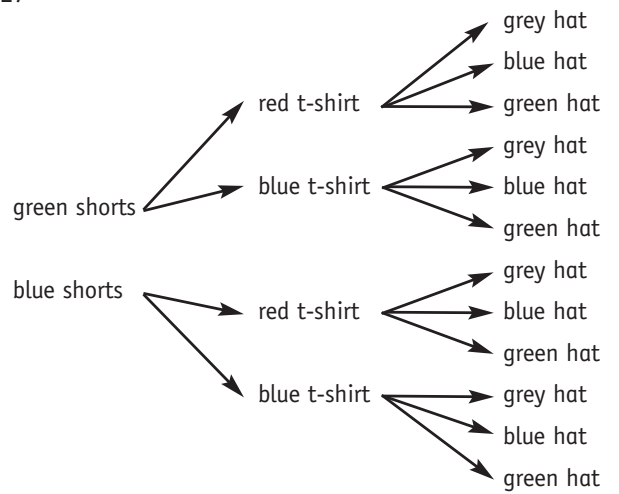
Worksheet 4

1 4

2 8



3 27



Worksheet 5

1 6

2 teacher check

3 12

4 Tu - 16, W - 22, Th - 28, F - 34, Sa - 40, Sun - 46 min

Worksheet 6

1 1st year - 5, 5, 10; 2nd year 10, 10, 20;

3rd year 20, 20, 40

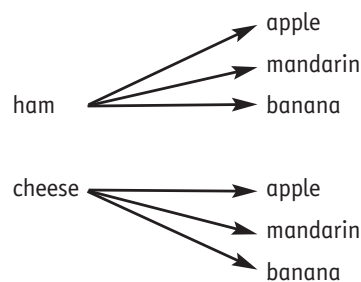
2 Feb - £40, £45, £50, £55, £60, £65, £70, £75

3 Jan - 160, 80, 40, 20, 10, 5

4 Sun - 8, 7, 6, 5, 4, 3, (33 hrs)

Worksheet 7

1



- 2** mango with choc;
 mango with sprinkles;
 mango with cream;
 strawberry with choc;
 strawberry with sprinkles;
 strawberry with cream;
 banana with choc;
 banana with sprinkles;
 banana with cream

- 3** Supreme with pep/veg, pep/sea, veg/sea;
 Pepperoni with sup/veg, sup/sea, veg/sea;
 Vegetarian with sup/pep, sup/sea, pep/sea;
 Seafood with sup/pep, sup/sea, veg/sea

Worksheet 8

- 1** 4 + 5, 4 + 6, 5 + 5, 5 + 6, 6 + 6
2 Ma → Li → Lo; Ma → Lo → Li; Lo → Ma → Li;
 Lo → Li → Ma; Li → Lo → Ma; Li → Ma → Lo
3 6; B&M, B&F, B&P, M&F, M&P, F&P

Work backwards

Worksheet 1

- 1** 9 + 12 + 10 + 8 = 39
2 17 - 4 - 5 - 6 = 2
3 24 + 12 + 15 + 9 = 60

Worksheet 2

- 1** 90 km (90 + 60 + 80 + 70 = 300)
2 100 km (100 + 100 + 150 + 80 + 120 = 550)
3 6 km (5 + 6 + 8 + 6 = 25)

Worksheet 3

- 1** 7 m (4 + 2 + 1)
2 B = 200, F = 100, D = 80, L = 130
3 2250 (Th = 700, F = 500, Sa = 600, Su = 450)

Worksheet 4

- 1** Ed = 12, Di = 15, WS = 17, Pr = 18
2 Nu = 44, Sh = 34, Da = 28, M = 20

Worksheet 5

- 1** W = 35, Th = 45, F = 65, Sa = 115
2 7 missing; Th = 88 left, F = 78 left, Sa = 72 left
3 teacher check; S = £26, L = £52, P = £37, M = £43,
 D = £47

Worksheet 6

- 1** 24; M + 4 - 6 = 22 **so** M = 22 - 4 + 6
2 50; C - 20 + 52 - 13 = 69 **so** C = 69 + 20 - 52 + 13

Worksheet 7

- 1** 27
2 12 ÷ 4 × 2 = 6
3 50 ÷ 2 + 6 = 31
4 5 × 10 - 2 = 48
5 (26 - 15) × 2 = 22
6 (60 - 15) ÷ 9 = 5

Worksheet 8

- 1** £50; £35 + £2.50 + £12.50 = £50
2 200 km; trip = 720 km, T + 360 + 60 + 100 = 720
3 Day 1 = 400 km, Day 2 = 350 km, Day 3 = 400 km,
 Day 4 = 500 km; teacher check
4 M = £45, Tu = £85, W = £60, Th = £60, F = £40,
 Sa = £55; teacher check

Trial and error

Worksheet 1

- 1** Ji 4, Ja 4, T 8, S 10
2 Ji £30, Ja £10, T £20, S £40
3 Ji 4, Ja 4, T 6, S 6

Worksheet 2

- 1** B 5, J $\frac{1}{2}$, F $\frac{1}{2}$
2 B 7 $\frac{1}{2}$, J 7 $\frac{1}{2}$, F 5
3 B 4cm, J 2 m, F 1 m

Worksheet 3

- 1** D 12, C 4
2 C 5, M 12, R 4
3 L 12, M 9, S 7

Worksheet 4

- 1** 2 Christmas and 1 New Year
2 Hoota Nanny + Bad Boys + Silly Songs
3 2 hamburgers + 2 chicken + 4 fruit salad

Worksheet 5

- 1** 2 × 50p + 5 × 10p **or** 1 × 50p + 2 × 10p + 4 × 20p
2 2 × £2, 2 × £1, 2 × 50p, 2 × 20p
3 2 × £2, 6 × £1
4 3 × £5, 2 × £2, 1 × £1

Worksheet 6

- 1 blue 30, red 15, green 45
- 2 shelf 40, box 65, corner 95
- 3 Bubby 6, Sukies 12, Cuties 7

Worksheet 7

- 1 8, 6, 2
- 2 teacher check; eg 7 tries + 2 field goals
- 3 teacher check; eg 19 goals + 11 behinds

Worksheet 8

- 1 teacher check; eg $250 + 200 + 350 + 400$
- 2 teacher check; eg $\$6 + \$3 + \$1$
- 3 2 Sleepy Swings + 1 Joey Jump + 1 Bouncer +
1 Big Pocket = 5 rides

Logical reasoning

Worksheet 1

- 1 beetles, mozzies, crickets, flies, cockroaches
- 2 Adam, Gabby, Nev, Troy, Coll, Ben, Yan, Sam
- 3 Go-go, Hobo, Jozo, Flo-jo, To-go, Bobo, No-go

Worksheet 2

- 1 12; 2 blue, 3 green, 1 striped, 2 flowered, 4 Pitchems
- 2 Yes, 1; 5 baked beans, 1 chopped tomatoes, 6 peas,
3 whole tomatoes, 4 asparagus

Worksheet 3

teacher check

Worksheet 4

game

Worksheet 5

There are many answers for each question. Some examples:

- 1 **a** $3 + 3 + 4 + 11$ **b** $6 + 4 + 9 + 8$
- 2 **a** $10 \div 2 \times 27$ **b** $8 \times 16 - 8$ **c** $16 \times 6 - 16 + 4 + 1$
- 3 **a** $53 - 20 + 1$ **b** $67 + 20 - 1 - 8 + 10 - 1$
c $164 - 40 + 1$ **d** $100 - 1 + 17 - 2$
- 4 **a** $7 \times 2 \times 60$ **b** $50 - 5 + 32 + 3 + 1$

Worksheet 6

- 1 Dread – brown, brown; Fred – black, green;
Greg – blonde, blue
- 2 Van – 9, puppy; Cathy – 10, fish; Nemo – 12, axolotl;
Sam – 11, cat

Worksheet 7

- 1 8 squares
- 2 2 squares
- 3 5 squares

Worksheet 8

- 1 Fri 26° , Sat 22° , Sun 20° , Mon 23°
- 2 48; $40 - 10 + 5 + 8 + 10 - 5$
- 3 teacher check
- 4 Kay – 8, 135 cm; Jay – 9, 125 cm; May – 10, 145 cm