

## Power maths answers for week 1

Day 1:

→ pages 6–8

1. a) 0.9                      c) 0.7  
b) 0.9                      d) 1.0

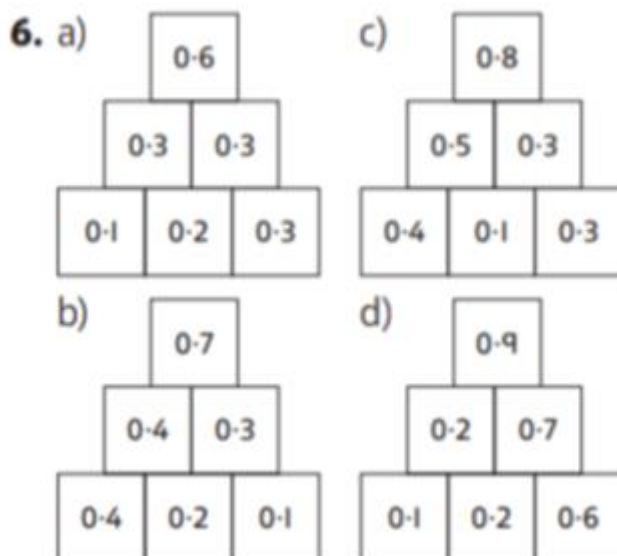
2. a)  $0.9 - 0.5 = 0.4$   
b)  $0.9 - 0.2 = 0.7$

3.  $0.8 = 0.1 + 0.7$

Check parts on other models total 0.8.

4. a) 0.8                      e) 0.6                      i) 1 (or 1.0)  
b) 0.8                      f) 0.5                      j) 0  
c) 0.3                      g) 0.9  
d) 0.4                      h) 0.6

5. a) 1 (or 1.0)              d) 0.8  
b) 0.4                      e) 0.5  
c) 0.9                      f) 0.8



7. Answers will vary for pairs of  $\blacktriangle$  and  $\blacklozenge$ ; for example:

$$\blacktriangle = 0.4 \quad \blacklozenge = 0.1$$

$$\blacktriangle = 0.5 \quad \blacklozenge = 0.2$$

$$\blacktriangle = 0.6 \quad \blacklozenge = 0.3$$

$$\blacktriangle = 0.7 \quad \blacklozenge = 0.4$$

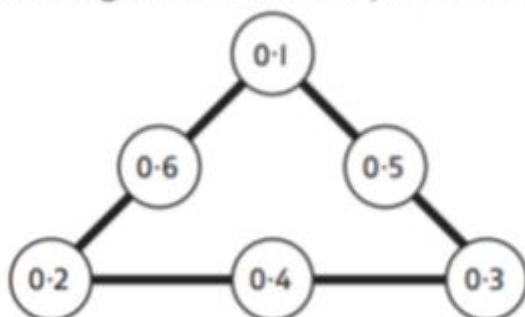
$$\blacktriangle = 0.8 \quad \blacklozenge = 0.5$$

$$\blacktriangle = 0.9 \quad \blacklozenge = 0.6$$

$$\blacktriangle = 0.46 \quad \blacklozenge = 0.16$$

$$\blacktriangle = 0.55 \quad \blacklozenge = 0.25$$

8. Arrangements will vary; for example:



## Reflect

Emma ignored the place value of the digits and added the tenths and ones together, she needs to add the tenths and tenths and the ones and ones, i.e.

0	•	Tth
0	•	4
1	•	0

$$0.4 + 1 = 1.4$$

## Day 2 answers

→ pages 9–11

1. a)  $0.36 + 0.22 = 0.58$

	O	.	Tth	Hth
	0	.	3	6
+	0	.	2	2
	0	.	5	8

b)  $0.25 + 0.47 = 0.72$

	O	.	Tth	Hth
	0	.	2	5
+	0	.	4	7
	0	.	7	2

c)  $0.55 + 0.31 = 0.86$

	O	.	Tth	Hth
	0	.	5	5
+	0	.	3	1
	0	.	8	6

d)  $0.38 + 0.38 = 0.76$

	O	.	Tth	Hth
	0	.	3	8
+	0	.	3	8
	0	.	7	6

2. Kate has put the 5 from 0.05 in the wrong column (tenths instead of hundredths). The correct answer is:

	O	.	Tth	Hth
	0	.	0	5
+	0	.	1	2
	0	.	1	7

3.  $0.65 - 0.34 \text{ km} = 0.31 \text{ km}$

	O	.	Tth	Hth
	0	.	6	5
-	0	.	3	4
	0	.	3	1

4. a)  $0.92 - 0.58 = 0.34$

	O	.	Tth	Hth
	0	.	9	2
-	0	.	5	8
	0	.	3	4

b)  $0.49 - 0.19 = 0.30$

	0	.	Tth	Hth
	0	.	4	9
-	0	.	1	9
	0	.	3	0

c)  $0.71 - 0.24 = 0.47$

	0	.	Tth	Hth
	0	.	<del>7</del> <sup>6</sup>	1
-	0	.	2	4
	0	.	4	7

d)  $0.60 - 0.45 = 0.15$

	0	.	Tth	Hth
	0	.	<del>6</del> <sup>5</sup>	0
-	0	.	4	5
	0	.	1	5

5. a) 0.32                      b) 1.02                      c) 0.19

6.  $0.15 + 0.57 = 0.72$  or  $0.72 - 0.15 = 0.57$

7. a) Calculations will vary but total should be 0.99; for example:

	0	.	Tth	Hth
	0	.	8	7
+	0	.	1	2
	0	.	9	9

b) For decimals with 2 dp:

	0	.	Tth	Hth
	0	.	9	8
-	0	.	1	2
	0	.	8	6

Alternatively, accept 3 dp:

	0	.	Tth	Hth	Thth
	0	.	9	8	7
-	0	.	1		
	0	.	8	8	7

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## Reflect

If Alex works out  $37 + 59 = 96$ , then she can use this to work out the answer to  $0.37 + 0.59$  as follows:

$$0.37 + 0.59 = 37 \text{ hundredths} + 59 \text{ hundredths} = 96 \text{ hundredths} = 0.96$$

### Day 3 answers

#### → pages 12–14

- a)  $0.8 + 0.2 = 1$   
b)  $0.69 + 0.31 = 1$
- Pieces matched:  
 $0.88 \text{ m} \rightarrow 0.12 \text{ m}$   
 $0.766 \text{ m} \rightarrow 0.234 \text{ m}$   
 $0.9 \text{ m} \rightarrow 0.1 \text{ m}$
- $0.84 + 0.26 = 1.1$ , not 1. Lexi's mistake is that she forgot about the exchange from the hundredths to the tenths. To make 1, Lexi must add 0.74, so 7 tenths counters and 4 hundredths counters.

4. a) i)  $0.62$                       ii)  $0.616$                       iii)  $0.62$

b)  $0.38 + 0.62 = 1$

$1 - 0.62 = 0.38$

$0.62 + 0.38 = 1$

$1 - 0.38 = 0.62$

5. a)  $0.3 + 0.7 = 1$

b)  $0.71 + 0.29 = 1$

c)  $0.95 + 0.05 = 1$

d)  $0.90 + 0.1 = 1$

e)  $0.213 + 0.787 = 0.912$

f)  $0.912 + 0.088 = 1$

g)  $1 - 0.24 = 0.76$

h)  $1 - 0.93 = 0.07$

i)  $1 - 0.235 = 0.765$

6. a)  $0.4 + 0.6 = 1$

$0.04 + 0.96 = 1$

$0.004 + 0.996 = 1$

b)  $0.4 + 0.6 = 1$

$0.40 + 0.6 = 1$

$0.400 + 0.6 = 1$

7. a) Answers will vary; for example:

	0	.	Tth	Hth	Thth
	0	.	4	1	3
+	0	.	5	8	7
	1	.	0	0	0

b) Answers will vary; for example:

$$\begin{array}{r} \text{O} \quad \cdot \quad \text{Tth} \quad \text{Hth} \quad \text{Thth} \\ 0 \quad \cdot \quad 1 \quad 5 \quad 7 \\ + 0 \quad \cdot \quad 8 \quad 4 \quad 3 \\ \hline 1 \quad \cdot \quad 0 \quad 0 \quad 0 \end{array} \quad + \quad \begin{array}{r} \text{O} \quad \cdot \quad \text{Tth} \quad \text{Hth} \quad \text{Thth} \\ 0 \quad \cdot \quad 8 \quad 1 \quad 5 \\ + 0 \quad \cdot \quad 1 \quad 8 \quad 5 \\ \hline 1 \quad \cdot \quad 0 \quad 0 \quad 0 \end{array}$$

Same: The digits in the tenths and hundredths column total 9 and the digits in the thousandths column total 10.

Different: Digits in calculation vary and their positions vary between calculations.

## Reflect

Yes,  $0.207 + 0.793$  does equal 1.

Explanations may vary; for example:

3 thousandths + 7 thousandths = 10 thousandths which is the same as 1 hundredth. Adding this to the 9 hundredths gives 10 hundredths, which is the same as 1 tenth. Adding this to the 2 tenths and the 7 tenths gives 10 tenths, which equals 1.

Day 4 answers

**→ pages 15–17**

**1** a)  $0.37 + 0.82 = 1.19$

	O	.	Tth	Hth
	0	.	3	7
+	0	.	8	2
	1	.	1	9

b)  $0.675 + 0.721 = 1.396$

	O	.	Tth	Hth	Thth
	0	.	6	7	5
+	0	.	7	2	1
	1	.	3	9	6

c)  $0.56 + 0.78 = 1.34$

	O	.	Tth	Hth
	0	.	5	6
+	0	.	7	8
	1	.	3	4

d)  $0.7 + 0.7 = 1.4$

	O	.	Tth
	0	.	7
+	0	.	7
	1	.	4

e)  $0.82 + 0.78 = 1.6$

	O	.	Tth	Hth
	0	.	8	2
+	0	.	7	8
	1	.	6	0



2. Calculations matched to answers:

$$0.23 + 0.84 \rightarrow 1.07$$

$$0.76 + 0.52 \rightarrow 1.28$$

$$1 + 0.17 \rightarrow 1.17$$

$$0.74 + 0.63 \rightarrow 1.37$$

$$0.54 + 0.85 \rightarrow 1.39$$

3. The ruler and eraser cost £1.54 altogether.

4. Yes, he ran 1.25 km on Thursday compared to 1.026 km on Monday to Wednesday.

5. a)

	O	.	Tth	Hth
	0	.	4	3
+	0	.	6	7
	1	.	1	0

b)

	O	.	Tth	Hth
	0	.	7	8
+	0	.	5	9
	1	.	3	7

c)

	O	.	Tth	Hth	Thth
	0	.	7	3	2
+	0	.	7	8	1
	1	.	5	1	3

6. a)  $0.51 + 0.63 < 0.51 + 0.73$

b)  $0.7 + 0.4 = 0.71 + 0.39$

## Reflect

$0.5 + 0.6 = 5 \text{ tenths} + 6 \text{ tenths} = 11 \text{ tenths}$

Jamie needs to exchange 10 tenths for one whole to make 1.1. So, the correct answer is:

$$0.5 + 0.6 = 1.1$$

## Mental maths test answers

- 1) 210
- 2) 360
- 3) 560
- 4) 156
- 5) 486
- 6) 111
- 7) 108
- 8) 51
- 9) 32
  
- 10) 1,190
- 11) 7,200
- 12) 1,4000
- 13) 3,600
- 14) 770
- 15) 143
- 16) 12
- 17) 118
- 18) 452
- 19) 179
- 20) 96