Power maths answers for week 2

Day 1:

→ pages 122–124

1. a) $10 \div 5 = 2$
So $\frac{1}{5}$ of $10 = 2$

b) $\frac{1}{5} \times 10 = \frac{10}{5} = 2$

c) Answers may vary. Both calculations involve the fraction $\frac{1}{5}$ and the whole number 10. Both calculations give the same answer of 2. So, finding $\frac{1}{5}$ of 10 is the same as finding $\frac{1}{5} \times 10$.

2. Lines drawn to match:

$\frac{1}{3} \times 15$ → $\frac{1}{3}$ of 15

$9 \times \frac{1}{4}$ → $\frac{1}{4}$ of 9

$\frac{4}{5} \times 30$ → $\frac{4}{5}$ of 30

$8 \times \frac{1}{8}$ → $\frac{1}{8}$ of 8

3. a) $\frac{1}{6}$ of $72 = 72 \div 6 = 12$
$\frac{5}{6}$ of $72 = 12 \times 5 = 60$

b) $\frac{5}{6} \times 72 = \frac{360}{6} = 60$

c) Preferences will vary. Make sure children should justify their reasons. Oliva's method keeps the numbers smaller.

4. a) $\frac{7}{3} = 2\frac{1}{3}$ b) $\frac{32}{7} = 4\frac{4}{7}$ hours

5. There is $3\frac{1}{3}$ kg of flour left in the bag.

Reflect

Methods may vary. Encourage children to use the most efficient methods depending on the numbers in the calculation. For $\frac{1}{3}$ of 17, as 17 is not a multiple of 3, children should write this as $\frac{17}{3}$ and then convert into a mixed number $= 5\frac{2}{3}$. For $\frac{4}{5} \times 45$, as 45 is a multiple of 5, then it is simpler for children to divide 45 by 5 ($\frac{1}{5}$ of $45 = 9$) and then multiply the answer by 4 to give $\frac{4}{5}$ of $45 = 36$.

Day 2:

→ pages 125–127

1. 24 ÷ 2 = 12
12 × 7 = 84
There are 84 green counters.

2. 54 ÷ 6 = 9
9 × 7 = 63
Adam has 63 model cars.

3. a) Tom and Donna shared 96 pencils.
b) There are 72 red pencils.

4. There are 34 squares in the box.

5. They shared £132.

Reflect

Answers will vary. Encourage children to explain what they found difficult and how they could perhaps make questions easier using bar models.

Day 3:

End of unit check

1) A
2) C
3) D
4) C
5) C
6) 12
7) 15

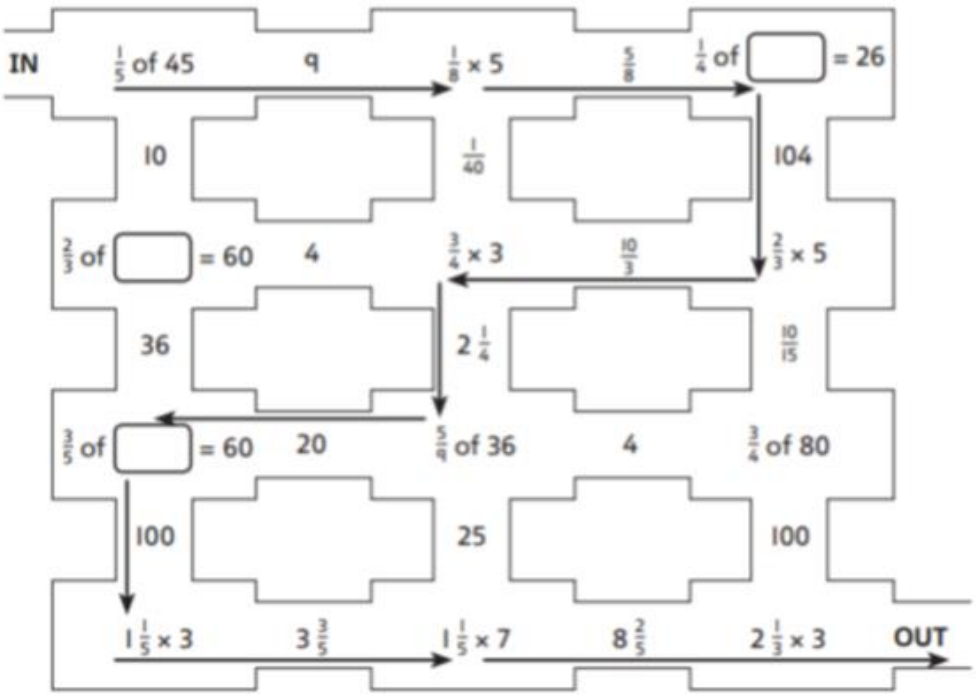
My journal

Explanations may vary. Encourage children to use more efficient methods of working depending on the numbers *in the calculations.*

Answers: $\frac{1}{4} \times 60\text{ kg} = 15\text{ kg}$

$\frac{1}{3}$ of 5 litres $= \frac{5}{3}$ litres $= 1\frac{2}{3}$ litres

Power puzzle

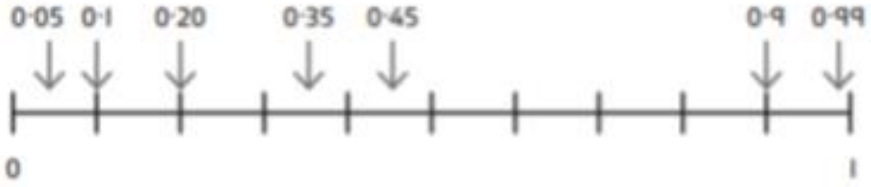


Day 4:

→ pages 130–132

1. 0·7 0·75
0·4 0·43
0·6 0·62

2.



3. 0·23 – two 0·1 counters, three 0·01 counters
0·03 – three 0·01 counters
0·30 – three 0·1 counters

4. a) The value of the digit 4 in 0·34 is 4 hundredths.
b) 9 has the value of 9 tenths in the number 0·90
c) The value of the digit 5 in 0·5* is 5 tenths
(* can be any digit)
d. You could put any digit, except 5, in the hundredths column and the statement will still be true, so there is more than one correct answer.

5. a) 0·28 b) 0·01

6. a) There are 18 possible answers: 0·10, 0·01, 0·21, 0·12, 0·32, 0·23, 0·43, 0·34, 0·54, 0·45, 0·65, 0·56, 0·76, 0·67, 0·87, 0·78, 0·98, 0·89
b) Two possible answers: 0·09, 0·90
c) There are only 10 digits, the largest digit being 9. So, there is only one pair of digits that have a difference of 9 (0 and 9). However, there are 9 pairs of digits with a difference of 1.

Reflect

Answers will vary. Same – 0·7 and 0·07 both contain one digit (7) but all other digits are 0; both numbers are smaller than 1. Different – the 7 digit has a different value (7 tenths in 0.7 and 7 hundredths in 0·07); 0·7 is greater than 0·1 whereas 0·07 is smaller than 0·1.

Day 5:

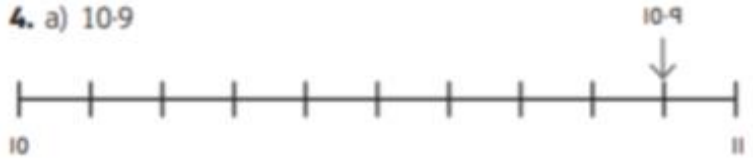
→ pages 133–135

1. Numbers added to number line:
1·3, 1·4, 1·5, 1·6, 1·7, 1·8, 1·9, 2
1·11 … 1·13 … 1·15, 1·16, 1·17, 1·18, 1·19, 1·2
9·8, 9·9, 10, 10·1, 10·2, 10·3, 10·4, 10·5
5·66, 5·67, 5·68, 5·69, 5·7, 5·71, 5·72, 5·73, 5·74

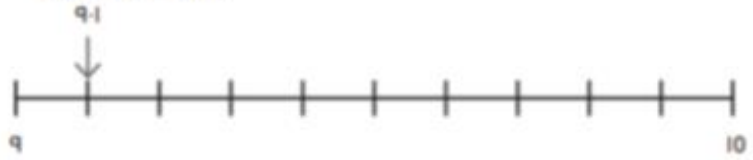
2. a) 1·4
b) 5·59
c) 4·01
d) 5·05

3. a) 1·3, 1·2, 1·1, 1, 0·9, 0·8, 0·7
b) 1·3, 1·31, 1·32, 1·33, 1·34, 1·35
c) 3·02, 3·01, 3, 2·99, 2·98, 2·97, 2·96
d) 5·9, 5·91, 5·92, 5·93, 5·94, 5·95, 5·96

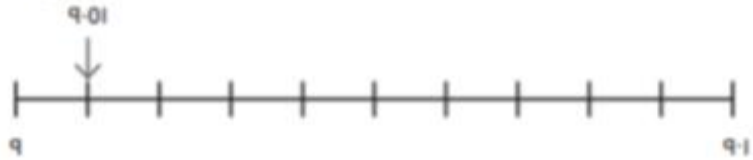
4. a) 10·9



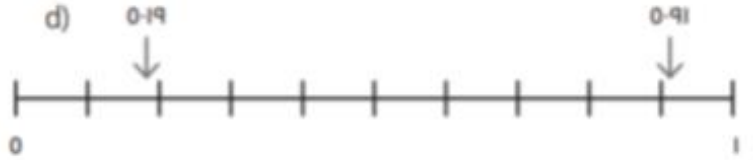
b) 9·1 (or 9·10)



c) 9·01



d)



5. a) 9·95
b) 99·5
c) 99·95
d) 999·5
10·05
100·5
100·05
1,000·5

Reflect

True – the digit 5 is in a different column in each number, which means its value is different. In 5·17 its value is 5 ones; in 7·15 its value is 5 hundredths; in 1·57 its value is 5 tenths.