

# Maths Answers – Week 6

## Day 1 – Lesson 5 – Imperial units of length

### Starter – answer on smartboard

#### Discover

##### ANSWERS

Question 1 a): The penguin swallowed the ring.

Question 1 b): The ostrich is 120 cm tall, which is the same as 1.2 m.

#### Think Together

Question 1:  $5 \times 12 = 60$ ;  $60 + 3 = 63$   
5 feet 3 inches is equal to 63 inches. The emu is 63 inches tall.

Question 2:  $15 \times 3 = 45$ , so 15 yards = 45 feet  
 $45 \times 12 = 540$ , so 15 yards = 540 inches  
The pond is 540 inches wide.

#### Challenge

Question 3: Answers will vary. For example:  
1 inch  $\approx$  2.5 cm, 25 mm, 0.025 m  
1 foot  $\approx$  30 cm, 300 mm, 0.3 m ( $12 \times 2.5 = 30$ )  
1 yard  $\approx$  90 cm, 900 mm, 0.9 m ( $3 \times 30 = 90$ )

#### Textbook

1. a) Circled: 10 inch pizza  
Park 100 yards  
Amal 6 feet 2 inches  
b) 1 inch is approximately  $2\frac{1}{2}$  cm.  
1 foot is equal to 12 inches.  
1 yard is equal to 3 feet.

2.  $4 \times 12 = 48$   
The snake is 48 inches long.

3.

0	1	2	3	4	5	6	7	8	9	10
inches										
cm										
0	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25

6. 55 inches

12 inches	12 inches	12 inches	12 inches	7 in
1 foot	1 foot	1 foot	1 foot	7 in

= 4 ft 7 in  
= 1 yd 1 ft 7 in

7. a) Jamie is confusing yards and feet; she means 2 yards which is 6 feet.  
b) Answers will vary. Check that children have correctly converted between centimetres and feet and inches.

4. a) a 48 inch chimpanzee  
( $3\frac{1}{2}$  ft =  $36 + 6 = 42$  inches or 48 inches = 4 ft)  
b) 21 foot patio  
(6 yards =  $6 \times 3 = 18$  ft or 21 ft =  $21 \div 3 = 7$  yards)
5. 20 yards =  $20 \times 90$  cm = 1,800 cm = 18 m  
100 yards =  $100 \times 90$  cm = 9,000 cm = 90 m  
20 yards is about 18 m. 100 yards is about 90 m.

#### Reflect

Answers will vary; for example:

Imperial units were used in the UK until they were replaced by metric. However they are still used, for example road distances, driving speeds and TV sizes.

Imperial units include inches, feet and yards.

Metric conversion involves multiplying by 10, 100 and 1,000 which can be easier than converting between imperial units.

12 inches = 1 foot  
1 yard = 3 feet  
1 inch = 2.5 cm (roughly)

## Day 2 – Lesson 6 – Imperial units of mass

**Starter** – 40cm, 38cm, 0.8m, 2in, 0.4in, 216in

### Discover

#### ANSWERS

Question 1 a): Alex should ask for 2 lb of apples and  $\frac{1}{4}$  lb (or 0.25 lb) of blueberries.

Question 1 b): Alex's fruit will weigh about 1.008 kg.

### Think Together

Question 1: The raspberries weigh about 420 g.

Question 2 a):  $4 \text{ lb} = 16 \text{ oz} \times 4 = 64 \text{ oz}$ ;  
 $10 \text{ lb} = 16 \text{ oz} \times 10 = 160 \text{ oz}$ ;  
 $\frac{1}{2} \text{ lb} = 16 \text{ oz} \div 2 = 8 \text{ oz}$

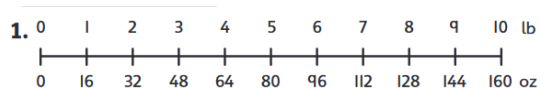
Question 2 b):  $\frac{1}{4} \text{ lb} = 16 \text{ oz} \div 4 = 4 \text{ oz}$ , so  $\frac{3}{4} \text{ lb} = 4 \text{ oz} \times 3 = 12 \text{ oz}$

### Challenge

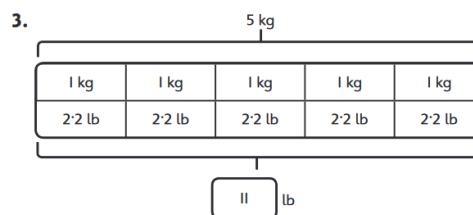
Question 3 a): The second set of scales will show 13.2 lb.

Question 3 b): The dog weighs 49 lbs, which is about 22.5 kg.

### Textbook



- a)  $3 \text{ lb} = 48 \text{ oz}$                       e)  $3 \text{ lb } 3 \text{ oz} = 51 \text{ oz}$   
 b)  $7 \text{ lb} = 112 \text{ oz}$                     f)  $\frac{1}{2} \text{ lb} = 8 \text{ oz}$   
 c)  $5 \text{ lb} = 80 \text{ oz}$                       g)  $\frac{1}{4} \text{ lb} = 4 \text{ oz}$   
 d)  $8 \text{ lb } 2 \text{ oz} = 130 \text{ oz}$             h)  $4.5 \text{ lb} = 72 \text{ oz}$   
 2. a) 17 lb                                    b)  $17 \text{ lb} = 272 \text{ oz}$



4.  $3 \frac{1}{2} \text{ lb}$  is about 1.575 kg.  
 Explanations may vary; for example:  
 $3 \frac{1}{2} \times 450 = 1,350 + 225 = 1,575$   
 So,  $3 \frac{1}{2} \text{ lb}$  is about 1,575 g, which is 1.575 kg.

5. a) Coloured measurements: T = 4,500 g, O = 4.5 kg, N = 160 oz

b) The imperial unit is ton.

6. a) The giant octopus has a mass of 100 lb.

b) 2.2 lb is about 1 kg, so 9.9 lb is about 4.5 kg. This means 100 lb is close to 45 kg.  
 The giant octopus has a mass of approximately 45 kg.

### Reflect

Methods may vary; for example:

1 lb = 2.2 kg (approximately)

So:  $14 \text{ lb} = 14 \times 2 \text{ kg} + 14 \times 0.2 \text{ kg} = 30.8 \text{ kg}$  (approximately)

## Day 3 – Lesson 7 – Imperial units of capacity

### Starter – answer on smartboard

#### Discover

##### ANSWERS

- Question 1 a): 2.28 litres are approximately the same as 4 pints.
- Question 1 b): Mo has 3.42 litres of water.

#### Think Together

- Question 1 a):  $5 \times 570 = 2,850$ .  
 $2,850 \div 1,000 = 2.85$ . 5 pints are about the same as 2.85 litres.
- Question 1 b): 3 pints is the difference.  
 1,710 millilitres is the difference.  
 $1,710 \div 1,000 = 1.71$ . 1.71 litres is the difference.
- Question 2: 1 pint is approximately 570 ml.  
 Half a pint is approximately 275 ml.  
 So half a pint is less than a 330 ml can of lemonade.

#### Challenge

- Question 3: Yes, the bucket can be filled and there will be 0.26 litres (or 260 ml) left over.

#### Textbook

1.

1 pt	2 pt	3 pt	4 pt	5 pt	6 pt	7 pt	8 pt
570 ml	1,140 ml	1,710 ml	2,280 ml	2,850 ml	3,420 ml	3,990 ml	4,560 ml

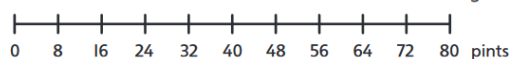
2. a) 5 pints = 2,850 ml      e) 3 litres 420 ml = 6 pints  
 b) 8 pints = 4,560 ml      f) 7 pints = 3.99 litres  
 c) 3 pints = 1,710 ml      g)  $\frac{1}{2}$  pint = 285 millilitres  
 d) 1 litre 140 ml = 2 pints

3. Circled:  $4\frac{1}{2}$  litres.

Explanations may vary; for example:

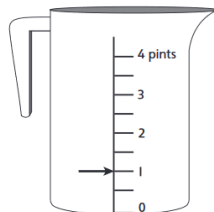
1 gallon = 8 pints = 4,560 ml = 4.56 l, which rounds to  $4\frac{1}{2}$  litres to the nearest  $\frac{1}{2}$  litre.

4. 0 1 2 3 4 5 6 7 8 9 10 gallons



Pond C contains the most water.

5. The jug contains  $3\frac{1}{2}$  pints = 1.995 litres approximately (accept close answer; for example: 2 litres)
6. Line drawn on jug at (or just over) 1 pint:



7. a) 1 gallon = 8 pints =  $8 \times 570$  ml = 4.56 l (approximately)  
 So, 1 gallon costs £5 at petrol station A but only £4.56 at petrol station B.  
 Petrol station B is cheaper.  
 b) She saves £4.40 ( $10 \times £0.44$ )

#### Reflect

1 pint is approximately 570 ml so 2 pints is about 1,140 ml. So, you could buy 1 litre if you don't need exactly 2 pints of milk. If you need at least 2 pints then you will need to buy 2 litres and you will have some left over.

## Day 8 – Lesson 4 – Converting units of time

### Starter

5 8 16 9 45 22.5  
 $22.5 \times 2 = 45$     $45 \div 5 = 9$     $9 + 7 = 16$     $16 \div 2 = 8$     $8 - 3 = 5$

### Discover

- Question 1 a): Toshi has had his phone for 5 weeks and 4 days.
- Question 1 b): 4 bars of Amal's battery should be charged fully. There are 15 minutes left until the next bar is charged.

### Think Together

- Question 1: 378 is between 360 and 420.  
 So there are 6 minutes and there will be a remainder of seconds.  
 $378 - 360 = 18$   
 Amal's phone has been downloading for 6 minutes and 18 seconds.
- Question 2:  $5 \text{ weeks} = 5 \times 7 = 35 \text{ days}$   
 $35 - 22 = 13$   
 There are 13 days until the sale ends.

### Challenge

- Question 3 a): On the ferry: 13:00 Tuesday;  
 arrived: 19:00 Tuesday;  
 visiting auntie: 13:00 Thursday;  
 theme park: 10:00 Friday
- Question 3 b): Jen has 154 hours until she has to go home.

### Textbook

1. a)

310 minutes					
60 mins	60 mins	60 mins	60 mins	60 mins	10 mins

The rail journey is 5 hours 10 minutes.

b)

195 s			
60 s	60 s	60 s	15 s

The pop song is 3 minutes 15 seconds.

2.  $2 \text{ hours } 7 \text{ minutes} = 127 \text{ minutes}$   
 $137 \text{ minutes} = 2 \text{ hours } 17 \text{ minutes}$   
 Escape from Planet Zarg is longer.
3. No, Ambika is not correct. 0.25 of an hour is a quarter of an hour, which is  $60 \text{ minutes} \div 4 = 15 \text{ minutes}$ .  
 So, 4.25 hours is 4 hours 15 minutes.

#### 4. Bella, Lee, Mo, Kate

Name	Kate	Lee	Bella	Mo
Length of holidays	43 days	40 days	39 days	41 days

5. a) hours  $\rightarrow \times 60 \rightarrow \times 60 \rightarrow$  seconds  
 days  $\rightarrow \times 24 \rightarrow \times 60 \rightarrow$  minutes  
 days  $\rightarrow \div 7 \rightarrow$  weeks
- b) leap year  $\rightarrow \times 366 \rightarrow \times 24 \rightarrow \times 60 \rightarrow$  minutes

### Reflect

30 months = 2 years and 6 months

Descriptions may vary; for example:

Divide 30 by 12 to give 2 years and leave the remainder (6) as months.

**Day 5 – Mental Maths Answers – (scroll down to next page)**

- 1) 476
- 2) 9
- 3) 270
- 4) 9
- 5) 31
- 6) 53
- 7) 6.5
- 8) 135
- 9) 225.3

10) 11.1

11) 16.2

12) 14.2

13) 8.2

14) 17.1

15) 7.8

16) 26.3

17) 360

18) 2.5

19) -3.9

20) 45