Multiple-choice section

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Answer | C | A | D | A | D | B | A | C | B | C | D | A |

Question 1 [4.1]

C

Keeping the same order (boys to girls), ratio is 5 : 8.

Question 2 [4.1]

A



Question 3 [4.2]

D

3 cm = 30 mm; 24 : 30 is equivalent to 4 : 5

Question 4 [4.3]

A

8 : 34

Dividing both sides of ratio by 8 gives:

1 : 4.25

Question 5 [4.3]

D

Nell : Lucinda

1 : 0.8 is equivalent to 1.65 : *x*

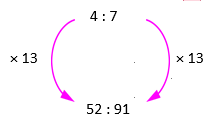
where *x* = 0.8 × 1.65

= 1.32 m

Lucinda is 1.32 m tall

Question 6 [4.4]

B



Question 7 [4.5]

A

3 m = 3000 mm

The ratio 5 : 3000

is equivalent to 1 : 600

Question 8 [4.5]

C

2 km = 2000 m = 2 000 000 mm

2 000 000 ÷ 50 000 = 40 mm or 4 cm

Question 9 [4.6]

B

3 + 4 = 7 parts in the ratio

1 part = 63 ÷ 7 = 9

3 : 4

Multiplying both sides of ratio by 9 gives

27 : 36

Simon gets $27 and Ava gets $36

Question 10 [4.7]

C

3.6 km = 3.6 × 1000 m = 3600 m

3600 m ÷ 30 minutes

= 120 metres per minute

Question 11 [4.7]

D

350 g : $2.10 is equivalent to 1000 g : *x*



Question 12 [4.7]

A

156 runs ÷ 30 overs = 5.2 runs per over

Multiple-choice total marks: 12

Short answer section

Question 13 3 marks [4.1, 4.2]

(a) A : B : C is equivalent to 12 : 16 : 10, which is equivalent to 3 : 4 : 2.5

(b) A = 12, total = 38  


(c) One possible answer is 3 : 4 : 2.5 is equivalent to 6 : 8 : 5

Question 14 6 marks [4.2, 4.6]

(a)  :  so the ratio is 5 : 27  
Total weight of fruit:  kg of apple +  kg pear +  kg of pineapple =  kg

(b)  :  is equivalent to  
, which is equivalent to , so the ratio is 10 : 69

(c) Pineapple + pear   
=  +  =  kg  
 :  is equivalent to  so the ratio is 59 : 69

Question 15 2 marks [4.4]

(a) 9 : 4 is equivalent to 

(b) Mass of flour = 

Question 16 3 marks [4.3]

(a) 350 ÷ 20 =  times

(b) 350 ÷ 15 =  times

(c) 350 ÷ 250 =  times

Question 17 3 marks [4.4]

(a) 2.4 L : 60 is equivalent to *x* : 100  
*x* = 2.4 × 100 ÷ 60 = 4 L

(b) 2.4 L : 60 is equivalent to *x* : 50  
*x* = 2.4 × 50 ÷ 60 = 2 L

(c) 100 scones uses 4 L and 50 scones uses 2 L, so 150 scones uses 4 + 2 = 6 L

Question 18 4 marks [4.5]

(a) 1 cm : 0.6 m   
Ratio os 1 cm : 60 cm   
is 1 : 60

(b) The scale factor is 60.

(c) 1 : 60 is equivalent to 90 mm : actual size  
actual size = 60 × 90 mm = 5400 mm or 5.4 metres

Question 19 4 marks [4.6]

(a) 5 + 3 = 8 parts in ratio  
Number of hard-centred chocolates =   
= 40  
Number of soft-centred chocolates =   
= 24

(b) 8 + 5 = 13 parts in ratio  
Number of hard-centred chocolates =   
= 40  
Number of soft-centred chocolates =   
= 25  
A soft-centred chocolate was added.

Question 20 2 marks [4.7]

3 : $14.70

Dividing both sides of ratio by 3 gives

1  : $4.70

1 plant costs $4.70

11 plants cost 11 × $4.70 = $51.70

Question 21 3 marks [4.7]

(a) 9:20 am to 9:35 am is 15 minutes, or 0.25 hours  
km/h

(b) 1.92 km/h =   
= 32 metres per minute

Question 22 4 marks [4.7]

(a) 400 mL × 24   
= 9600 mL or 9.6 L

(b) 9.6 L per day × 365   
= 3504 L or 3.504 kL

(c) $15 + $3 × 2.504 = $22.51

Short answer marks: 34

Extended answer section

Question 23 4 marks [4.7]

First Choice rental:

Cost for four days = 89 × 4 = $356

Extra km = 70 – 60 = 10 km

Extra km cost for four days = 1.40 × 10 × 4 = $56

Total cost = $356 + $56 = $412

Rent a ride:

108 × 4 = $432

First Choice rental is cheaper.

Question 24 6 marks [4.7]

(a) (i) A$70 = US$70 × 0.7047  
= US$49.33

(ii) A$70 = 70 × 4.64 yuan   
= 324.8 yuan

(iii) A$70 = 70 × 83.37 yen   
= 5835.9 yen

(b) (i) US$50.00 ÷ 0.7047 = A$70.95

(ii) 30.00 yuan ÷ 4.64 = A$6.47

(iii) 2000 yen ÷ 83.37 = A$23.99

Extended answer marks: 10

TOTAL test marks: 56