Multiple-choice section

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

Question 1 [4.1]

A

Keeping the same order (boys to girls), ratio is 4 : 7.

Question 2 [4.1]

D



Question 3 [4.2]

D

4 cm = 40 mm, 36 : 40 is equivalent to 9 : 10

Question 4 [4.3]

C

12 : 30

Dividing both sides of the ratio by 12 gives

1 : 2.5

Question 5 [4.3]

B

Nell : Lucinda

1 : 1.2 is equivalent to 1.45 : *x*

where *x* = 1.2 × 1.45 = 1.74 m

Lucinda is 1.74 m tall

Question 6 [4.4]

C

3 × 15 = 45, 5 × 15 = 75

Question 7 [4.5]

C

1 m = 1000 cm

The ratio 4 : 1000 is equivalent to 1 : 250

Question 8 [4.5]

C

8 km = 8000 m = 8 000 000 mm

8 000 000 ÷ 100 000 = 80 mm = 8 cm

Question 9 [4.6]

D

4 + 5 = 9 parts in the ratio

1 part = 72 ÷ 9 = 8

4 : 5

Multiplying both sides of ratio by 8 gives

32 : 40

Simon gets $32 and Ava gets $40

Question 10 [4.7]

C

2.5 km = 2.5 × 1000 m = 2500 m

2500 m ÷ 20 minutes

= 125 metres per minute

Question 11 [4.7]

A

320 g : $2.40 is equivalent to 1000 g : *x*



Question 12 [4.7]

C

245 runs ÷ 50 overs = 4.9 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 18 : 21 : 12, which is equivalent to 6 : 7 : 4

(b) A = 18, total = 51  


(c) One possible answer: 3 : 3.5 : 2 is equivalent to 6 : 7 : 4

Question 14 6 marks [4.2, 4.6]

(a)  :  so the ratio is 9 : 23  
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 18 : 67

(c) Pineapple + pear   
 =  +  =  kg  
 :  is equivalent to , so the ratio is 49 : 67

Question 15 2 marks [4.4]

(a) 7 : 2 is equivalent to 

(b) Mass of flour = 

Question 16 3 marks [4.3]

(a) 400 ÷ 40 = 10 times (b) 400 ÷ 12 =  times (c) 400 ÷ 250 =  times

Question 17 3 marks [4.4]

(a) 6L : 200 is equivalent to *x* : 100  
*x* = 6 ÷ 2 = 3 L

(b) 6L : 200 is equivalent to *x* : 50  
*x* = 6 ÷ 4 = 1.5 L

(c) 200 scones uses 6 L and 50 scones uses 1.5 L so 250 scones uses 6 + 1.5 = 7.5 L

Question 18 4 marks [4.5]

(a) 0.8 m = 80 cm  
Ratio of 1 cm : 80 cm is 1 : 80

(b) The scale factor is 80.

(c) 1 : 80 is equivalent to 60 mm : actual size  
actual size = 80 × 60 mm = 4800 mm or 4.8 m

Question 19 4 marks [4.6]

(a) 5 + 2 = 7 parts in ratio  
Number of hard-centred chocolates =   
Number of soft-centred chocolates = 

(b) 7 + 3 = 10 parts in ratio  
Number of hard-centred chocolates =   
Number of soft-centred chocolates =   
A soft-centred chocolate was added.

Question 20 2 marks [4.7]

4 plants : $20.40

Dividing both sides of ratio by 4 gives

1 : $5.10

1 plant costs $5.10, so 5 plants cost $5.10 × 7 = $35.70

Question 21 3 marks [4.7]

(a) 10:15 am to 10:45 am is half, or 0.5, of an hour  
km/h

(b) 2.7 km/h =   
= 45 metres per minute

Question 22 4 marks [4.7]

(a) 500 mL × 24 = 12 000 mL or 12 L

(b) 12 L per day × 365 = 4380 L or 4.38 kL

(c) $20 + $2 × 3.38 = $26.76

Short answer marks: 34

Extended answer section

Question 23 4 marks [4.7]

First Choice rental:

Cost for three days = 99 × 3 = $297

Extra km = 60 – 50 = 10 km

Extra km cost for three days = 1.60 × 10 × 3 = $48

Total cost = $297 + $48 = $345

Rent a ride: 129 × 3 = $387

First Choice rental is cheaper.

Question 24 6 marks [4.7]

(a) (i) A$50 = US$50 × 0.7370   
= US$36.85

(ii) A$50 = 50 × 6.03 yuan   
= 301.5 yuan

(iii) A$100 = 50 × 78.14 yen   
= 3907 yen

(b) (i) US$50.00 ÷ 0.7370 = A$67.84

(ii) 30.00 yuan ÷ 6.03 = A$4.98

(iii) 2000 yen ÷ 78.14 = A$25.60

Extended answer marks: 10

TOTAL test marks: 56