Multiple-choice section

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

Question 1 [4.1]

C

Ratio of seniors to the team is 18 : (18 + 16)   
18 : 34 is equivalent to 9 : 17

Question 2 [4.1]

B



Question 3 [4.2]

D

3.2 km = 320 000 cm

320 000 cm : 4000 cm

Dividing both sides of ratio by 4000 gives

80 : 1

Question 4 [4.3]

C

1.4 : 4.62

Dividing both sides of ratio by 1.4 gives

1 : 3.3

Question 5 [4.3]

C

1 : 1.15 is equivalent to 1.52 : *x*

*x* = 1.15 × 1.52

= 1.75 m or 175 cm (to nearest cm)

Question 6 [4.4]

D

 =  = 

1.72 × *b* = 6.2

*b* = 

*b* = 3.60 (2 d.p.)

Question 7 [4.5]

D

5 metre = 500 cm

500 cm : 10 cm is equivalent to 50 : 1

The scale factor is 50.

Question 8 [4.5]

A

 km = 6125 m   
6125 m ÷ 100 000

= 0.06125 m or 6.125 cm

Question 9 [4.6]

A

4 + 5 = 9 parts in the ratio

112.05 ÷ 9 = 12.45

4 : 5

Multiplying both sides of ratio by 12.45 gives

49.80 : 62.25

Simon gets $49.80, Ava gets $62.25

Question 10 [4.7]

C

0.36 km is equal to 0.36 × 1000 = 360 m

360 m ÷ (10 × 60) seconds

= 0.6 metres per second

Question 11 [4.7]

A

280 g : $2.10 is equivalent to 2500 g : *x*



Question 12 [4.7]

B

244 runs ÷ 50 overs = 4.88 runs per over

Multiple-choice total marks: 12

Short answer section

Question 13 2 marks [4.1, 4.2]

(a) A : B : C is equivalent to 12.60 : 16.80 : 29.40

Multiplying both sides of ratio by 10 gives

126 : 168 : 294

which is equivalent to 3 : 4 : 7

(b) A = 12.60, total = 58.8.



Question 14 2 marks [4.6]

2 + 1 = 3. There are 15 blocks in total.

2 : 1 is equivalent to 10 : 5

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Question 15 6 marks [4.2]

(a)  :  or  
****   
so the ratio is 6 : 15 or, in simplest form, 2 : 5

(b) Total weight of fruit:  kg of apple +  kg pear +  kg of pineapple =  kg  
 :  or is equivalent to  
  
so the ratio is 12 : 47

(c)



Question 16 2 marks [4.2]

(a) 0.2 : 0.02  
20 : 2   
10 : 1

(b)   
Dividing both sides by 5*b* gives  
2*ab*:3

Question 17 2 marks [4.4]

Ratio of eggs : flour is 4 : 3 and this is equivalent to 7 : *f*  
4*f* = 7 × 3

*f* = 

=  cups

Question 18 3 marks [4.4, 4.6]

Number of red marbles =

Number of blue marbles = 480 – 192 = 288

Ratio of blue marbles : red marbles is 288 : 192 and this is equivalent to 3 : 2

Question 19 2 marks [4.4, 4.6]

Ratio of milk : peanut : crispy is 5 : 2 : 3

5 + 2 + 3 = 10 parts in the ratio

Number of crispy M&Ms =total = 75

Total number of M&Ms = 75 × 10 ÷ 3 = 250

Question 20 2 marks [4.3]

(a) 600 ÷ 45 =times

(b) 3 : 5 is equivalent to 1 :  or 1 : 1.67  
7 : 9 is equivalent to 1 : or 1 : 1.23  
3 : 5 is greater.

Question 21 4 marks [4.5]

(a) 0.96 m = 96 cm  
Ratio of 1 cm : 96 cm   
is 1 : 96

(b) The scale factor is 96.

(c) 1 : 96 is equivalent to 72 mm : actual size  
actual size = 96 × 72 mm   
= 6912 mm or 6.912 m

Question 22 4 marks [4.7]

(a) 

(b)   
  
*t* = 725 ÷ 85.29 = 8.5 hours

Question 23 4 marks [4.7]

(a) 413 mL × 24   
= 9912 mL or = 9.912 L

(b) 9.912 L per day × 365 = 3617.88 L or 3.617 88 kL

(c) $20 + $15 × 2.617 88 = $59.27

Short answer marks: 33

Extended answer section

Question 24 4 marks [4.7]

First Choice rental:

Cost for four days = 79 × 4 = $316

Extra km = 150 – 80 = 70 km

Extra km cost = 70 × 1.60 = $112

Total cost = $316 + $112 = $428

Rent a ride:

1.5 : 165 is equivalent to 4 : *x*

*x* = 165 × 4 ÷ 1.5 = $440

First Choice rental is cheaper.

Question 25 6 marks [4.7]

(a) (i) A$150 = US$150 × 0.7480  
= US$112.20

(ii) A$150 = 150 × 8.05 yuan  
= 1207.5 yuan

(iii) A$150 = 150 × 92.15 yen  
= 13822.5 yen

(b) (i) US$32.00 ÷ 0.7480 = A$42.78

(ii) 300 yuan ÷ 8.05 = A$37.27

(iii) 4500 yen ÷ 92.15 = A$48.83

Extended answer total marks: 10

TOTAL test marks: 55