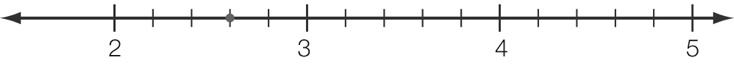
Multiple-choice section

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

Question 1 [4.1]

C



Each interval is 0.2 of a unit. The marked point is 2.6.

Question 2 [4.4]

C

longest: 4.65, shortest: 4.069

4.65 – 4.069 = 0.581

Question 3 [4.2]

D

5.396

Look to the next digit after the second decimal place.

The 6 tells us to round up (the 39 goes up to 40) to 5.40.

Question 4 [4.2]

B

3.688

The 8 tells us to round up to 3.69.

Question 5 [4.3]

D

5.35 is 5 wholes and 35 hundredths.



Question 6 [4.5]

B

2.4 × 0.05

24 × 5 = 120

There are 3 decimal places in the solution.



Question 7 [4.6]

C

0.488 is approximately 0.5; 0.041 is approximately 0.04

0.5 ÷ 0.04 equivalent to 50 ÷ 4 =12.5

Question 8 [4.7]

B

0.06 as a percentage

= 0.06 × 100% (this moves the decimal point 2 places to the right)

= 6%

Question 9 [4.8]

A

15% of $40



Question 10 [4.8]

**D**

Because she has eight dolls, she needs to collect 16 more.





She needs to collect approximately 66.7%.

Question 11 [4.9]

C

dogs : cats : total number of pets

2 : 4 : 12

= 1 : 2 : 6

Question 12 [4.10]

A

dogs : mince (kg)

20 : 15

= 1 : 

= 1 : 

= 12 : 9

So, 12 dogs eat 9 kg of mince.

Multiple-choice total marks: 12

Short answer section

Question 13 5 marks

(a) To write a fraction as a decimal you *divide* the *numerator* by the *denominator*.

(b) A *recurring* decimal is one that has a repeating pattern of digits.

(c) A *ratio* is a comparison of two or more quantities using a ‘ : ’ symbol.

Question 14 2 marks [4.6]

James multiplied 6 by 0.5; he found a half of 6.

Instead, he should have divided 6 by 0.5. How many times does 0.5 go into 6?

If 0.5 goes into 1 twice, then 0.5 goes into 6 (2 × 6) = 12 times.

To make these types of questions easier, multiply by a power of 10 until you have whole number.

6 ÷ 0.5 (multiply both by 10) = 60 ÷ 5 = 12

Question 15 2 marks [4.1]

(a) 4 tens, 3 tenths and 6 thousandths = 40.036

(b) 

Question 16 3 marks [4.1]

(a) 506 > 50.6

(b) 0.0345 > 0.03045

(c) 4.567 < 4.5671

Question 17 2 marks [4.1]

(a) 3.021, 3.12, 3.21

(b) 0.00574, 0.05074, 0.0574

Question 18 2 marks [4.2]

Various answers possible.

A decimal with 3 decimal places rounded to 3.40 could be:  
3.395, 3.396, 3.397, 3.398, 3.399, 3.401, 3.402, 3.403, 3.404

Question 19 2 marks [4.2, 4.4, 4.5]

(a) He would pay $1.67 × 4 = $6.68 = $6.70 (nearest 5 cents)

(b) Change = $10 – $6.70 = $3.30  
He would get $3.30 change.

Question 20 6 marks [4.7]

|  |  |  |
| --- | --- | --- |
| Fraction (simplest form) | Decimal | Percentage |
|  | 0.1 | 10% |
|  | 0.333… | 33.33% |
|  | 0.36 | 36% |
|  | 1.6 | 160% |
|  | 0.125 | 12.5% |
|  | 0.075 | 7.5% |
|  | 0.425 | 42.5% |

Question 21 2 marks [4.3]



Thus, a flea is approximately 0.002 of a metre long.

Question 22 2 marks [4.3]

(a) 



(b) 



Question 23 2 marks [4.4]

(a) 6 . 0 0 0  
 3 . 4 5 7  
+ 1 . 2 6 0  
1 0 . 7 1 7

(b)



Question 24 3 marks [4.5]

(a) 4.5 × 5 = 22.5  
 24.5  
× 5  
22.5

(b) 0.125 × 300  
= 0.125 × 3 × 100  
= 0.375 × 100  
= 37.5

(c) 56 × 3 = 168  
There are 4 decimal places in the question, so move the decimal point 4 places to the left:  
0.56 × 0.03 = 0.0168

Question 25 4 marks [4.6]

(a) 0.0566 ÷ 4 = 0.014 15  


(b) 0.045 ÷ 0.9  
= 0.45 ÷ 9

= 0.05

Question 26 3 marks [4.6]

567.5 ÷ 30

= 567.5 ÷ 3 ÷ 10



= 

= 18.916 66…

The bus fare is $18.90 per student, or $18.95 to make sure that all costs are covered.

Question 27 6 marks [4.8]

(a) 15% of 140



(b) 37.5% of 160



Question 28 2 marks [4.8]



Question 29 3 marks [4.10]

Percentage Time (s)

80% 12 (÷ 8)

10%  (× 10)

100% 15

Sophie took 15 seconds.

Question 30 4 marks [4.9]

(a) 12 : 30 (÷ 6)  
 2 : 5 (× 4)  
 8 : 20

(b) 6 : 15 : 21   
4 : 10 : 14

Question 31 3 marks [4.9]

Volume (L) Time (min)

4 2.5 (÷ 4)

1  (× 5)

5 



So it takes 3 minutes (to the nearest minute) to fill a 5 L bucket.

Short answer total: 58

Extended answer section

Question 32 7 marks [4.1, 4.4, 4.5, 4.6]

(a) (i)—(iii)

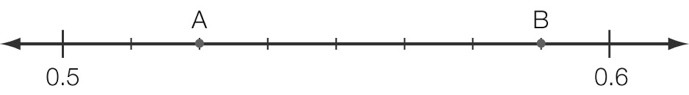


(b)



Each sub-interval is 0.0125 units long.

(c)

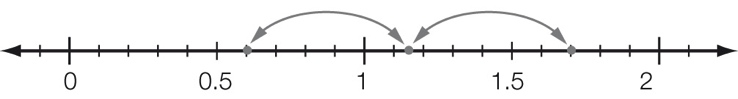


A is at 0.5 + 2 × 0.0125 = 0.5 + 0.025

= 5.25

B is at 0.6 – 0.0125 = 5.875

(d)



The point half-way between 0.6 and 1.7 is 1.15.

Another method: (0.6 + 1.7) ÷ 2 = 2.3 ÷ 2

= 1.15

Question 33 8 marks [4.4, 4.5, 4.6, 4.8, 4.9]

(a) 16.06 – 0.13 = 15.93

(b) 16.34 + 16.06 + 15.93 + 16.19 = 64.52  


The average time she ran was 16.13 seconds.

(c) Total number of serves is 3 + 1 + 2 + 1 + 1 = 8  
  
A single serve is 1337.5 kJ.  
The breakfast serving size is 3 × 1337.5 = 4012.5 kJ

(d) breakfast intake : lunch intake

3 : 2

(e) 



Anita’s intake on non-training days is 6955 kJ.

Question 34 12 marks [4.7, 4.8, 4.9, 4.10]

(a) Total ingredients 50 + 50 + 50 + 240 + 160 = 550 g  
50 g cornflour   
50 g plain flour   
50 g self raising flour  
240 g eggs (4 by 60 g)   
160 g caster sugar 

(b) cornflour : plain flour : self raising flour : eggs : caster sugar  
50 g : 50 g : 50 g : 4 : 160 g   
75 g : 75 g : 75 g : 6 : 240 g

(c) 100 g cornflour is $0.80, so 50 g cornflour is $0.40.  
100 g plain flour is $0.10, so 50 g plain flour is $0.05.  
100 g self-raising flour is $0.10, so 50 g self-raising flour is $0.05.  
12 eggs (60 g each) are $4.80, so 4 eggs are 4.8 ÷ 3 = $1.60.  
100 g caster sugar is $0.30, so 160 g caster sugar is 0.3 × 1.6 = $0.48.  
Total: 0.40 + 0.05 + 0.05 + 1.60 + 0.48 = $2:58

(d) Weight of ingredients without sugar: 50 + 50 + 50 + 240 = 390 g

When the sugar is 22%, the rest should be 100 – 22 = 78%.

weight : percentage  
390 : 78 (÷ 78)  
= 5 : 1 (× 22)  
= 110 : 22  
So, 22% is 110 g.  
Original recipe has 160 g, so Maggie could use 160 – 110 = 50 g less sugar.

Extended answer total: 27

TOTAL test marks: 97