Multiple choice section

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

Question 1 [5.1]

D

1.2 cm = 12 mm

 mm2

Question 2 [5.1]

D

 m2

Question 3 [5.2]

A

 m2

Question 4 [5.3]

C

 cm3

Question 5 [5.4] [10A]

C

 cm2

Question 6 [5.4] [10A]

A

 cm2

Question 7 [5.5] [10A]

B

 cm3

Question 8 [5.5] [10A]

D

 mm3

Question 9 [5.7] [10A]

A

2 kg = 2000 g  g/cm3

Question 10 [5.7] [10A]

C

40 mL / 2 L = 20 mL/L

Multiple-choice total marks: \_\_ / 10

Short answer section

Question 11 2 marks [5.2, 5.3]

(a) The cross sectional area of a prism has the same value across its entire length.

(b) The surface area of a cube is the sum of the area of its six faces.

Question 12 2 marks [5.2, 5.3]

Surface area is the area of the faces of an object. Volume is the space within the object.

Question 13 2 marks [5.1]

 m2

Question 14 2 marks [5.1]

Area of square – area of circle

= 26 × 26 – π × 132

= 145.07 cm2

Question 15 3 marks [5.2]

Area =  m2

Question 16 2 marks [5.3]

V = cm3

Question 17 2 marks [5.5] [10A]

V = cm3

Question 18 3 marks [5.4] [10A]

SA = cm2

Question 19 3 marks [5.5] [10A]

 cm3

 L

Question 20 3 marks [5.2]

SA = cm2

Question 21 3 marks [5.7] [10A]

(a) Concentration =   
=   
= 4.8 g/L

(b) Concentrate = Concentration (g/L) × Volume  
= 48 g/L × 3 L  
= 144 g

Question 22 2 marks [5.7] [10A]

Diameter = 3.2 mm

Radius = 0.16 cm

Volume: = cm3

Density:  g/cm3

Question 23 4 marks [5.6]

(a)



(b) cm

Question 24 3 marks [5.6]

(a)



(b) 

Short answer total:\_\_\_\_\_\_\_\_\_/36

Extended answer section

Question 25 6 marks [5.3, 5.4, 5.5] [10A]

(a) Vcylinder = π × r2 × h   
= π × 1.52 × 4  
= 28.27 m3

(b) Vsphere =  × π × r3  
 × π × r3 = 28.27  
  
r = 1.9 m

(c) SAsphere = 4 × π × r2   
= 4 × π × 1.92   
= 45.36 m2  
Cost = 45.36 × 50  
= $2268

Question 26 5 marks [5.1, 5.3]

(a) Semicircle:  cm2 Quarter circle:  cm2

(b) Area of pendant: 12.57 – 6.28 = 6.28 cm2

(c) Volume of gold in pendant = 6.28 × 2 = 12.56 cm3

(d)   


Question 27 5 marks [5.4] [10A]

(a)  cm2

(b) Rlarge circle = 10 cm  
rsmall circle = 8 cm  
Area of brim = π × R2 ¬ π × r2  
= π × R2 – π × r2  
= 113.10

(c) 1256.64 + 113.10 = 1369.73 cm2

Question 28 4 marks [5.3, 5.7]

(a)  litres

[10A] (b) 0.2 × 47 124 = 9424.8 g = 9.42 kg

Extended answer total:\_\_\_\_\_\_/20

TOTAL test results: \_\_\_\_\_ / 66