Multiple-choice section

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

Question 1 [5.1]

C

Perimeter of the square = 4 × edge length

200 = 4 × edge length

edge length = 50 cm

Question 2 [5.3]

A

*C* = 2π*r*

= 2 × π × 121 = 131.95 cm

Question 3 [5.3]

D

Perimeter of semicircle



Total perimeter = 29.85 + 9.5 + 9.5 = 48.85 cm

Question 4 [5.4]

C

Area of parallelogram = base × height

30 = base × 3.5  
base length = 30 ÷ 3.5 = 8.57 cm

Question 5 [5.4]

D

*A* = (*a* + *b*)*h*

312 = (12 + 28) × *h*

*h* = 15.6 cm

Question 6 [5.5]

A

*A* = π*r*2



Question 7 [5.6]

B

Area of square = 8.5 × 8.5

= 72.25 cm2

Area of rectangle = 15 × 6.5

= 97.5 cm2

Total area = 169.75 cm2

Question 8 [5.4]

D

Area of triangle =× base × height

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Question 9 [5.7]

D

Volume = length × width × height

724 = length × 10 × 7

length = 10.34 cm

Question 10 [5.8]

C

8:33 am to 9:00 am = 27 minutes

9 am to 12 pm = 3 hours

12 pm to 12:57 pm is 57 minutes

Total = 4 hours 24 minutes

Multiple-choice total marks: 10

Short answer section

Question 11 4 marks [5.1]

(a) Perimeter = 20+ 22.5 + 2.5 + 8 + 8 +2.5 + 22.5  
= 86 cm

(b) Perimeter  


Question 12 2 marks [5.1]

Perimeter = 8.5 × 6 = 51 cm

Question 13 7 marks [5.1]

(a) Perimeter = 7 + 6.1 + 11.5+ 20.5 + 11.5 +6.1+7  
= 69.7 cm

(b) Perimeter = 80 cm + 8.1m+ 8.1 m+580 mm  
= 80 + 810+810+58  
= 1758 cm or 17.58 m or 17580mm

(c) Perimeter = 80 cm + 220cm+330cm+1.1m+ 2m+0.84m+440mm  
= 80 cm + 220 cm+ 330 cm+ 110 cm+ 200cm+ 84 cm + 44 cm  
= 1068 cm or 10680 mm or 10.68 m

Question 14 2 marks [5.2]

Ratio of circumference to diameter



Question 15 4 marks [5.3]

(a) Circumference  
 

(b) Circumference part  
  
Perimeter = 26 + 5.5 + 5.5   
= 37 cm

Question 16 2 marks [5.4]

Area of parallelogram = base × height

= 33 × 10

= 330 cm2

Question 17 2 marks [5.4]

Area of trapezium   


Question 18 2 marks [5.4]

(a) Area of triangle  


(b) Area of parallelogram = *b* × *h* = 65 × 15 = 975 m2

Question 19 2 marks [5.5]

Area of circle  


Question 20 2 marks [5.5]

Area of quarter circle



Question 21 3 marks [5.4, 5.5]

Area of round cake tin  


Area of rectangular tin = 40 × 45 = 1800 cm2

Area of square tin = 40 × 40 = 1600 cm2

He should use the square tin.

Question 22 3 marks [5.6]

Total area = area of trapezium + area of triangle



Question 23 4 marks [5.6]

(a) Area is same as that of semicircle  


(b) The two larger semicircles form one big circle, the two smaller semicircles form one small circle.  
Total area = area of big circle + area of small circle  


Question 24 3 marks [5.7]

Volume = base area × height



Question 25 5 marks [5.8]

(a) 8:43 am – 40 minutes = 8:03 am

(b) 1st lesson started at 8:43 + 11 minutes = 8:54 am  
8:54 am + 150 minutes   
= 8:54 am + 2 hours + 30 minutes  
= 10:54 am + 30 minutes  
Recess was at 11:24 am.

(c) Recess ends at 11:24 + 25 min = 11:49 am  
Lunch was at 11:49 + 70 mins + 70 mins  
= 11:49 + 2 h + 20 min  
= 13:49 + 20 min  
= 14:09   
Lunch was at 2:09 pm.

Short answer total marks: 49

Extended answer section

Question 26 5 marks [5.6]

(a) Area of workbench = area of trapezium 1+ area of trapezium 2   
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= 3412 cm2

(b) Total cost = ****

Question 27 5 marks [5.5]

(a) Area of *D* = π × 82 = 64π cm2  
Area of *E* = π × 42 = 16π cm2  
= 4

The area of *D* 4 times larger than the area of *E*.

(b) Area of *A* = π × 202 = 400π cm2  
Area of *B* = π × 162 = 256π cm2  
Area of *C* = π × 122 = 144π cm2

Area of *B* + area of *C* = 256π + 144π = 400π cm2  
 = area of *A*

Question 28 6 marks [5.6]

Area of triangle =× base × height

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Area of one billiard ball   


Area of 10 billiard balls   


(c) Area not used by triangle = 1207.5-950.33  
= 257.07 cm2

(d) Number of billiard balls that can fit in unused space   


Question 29 5 marks [5.7]

(a) Volume of pool = base area × height  
= 456.8 × 7  
= 3197.60 m3

(b) 1 m3 = 1000 L  
3197.6 × 1000 = 3 197 600 L

Extended answer total marks: 21

TOTAL test marks: 80