Multiple-choice section

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

Question 1 [5.1]

B

Perimeter of the square = 4 × edge length

120 = 4 × edge length

edge length = 30 cm

Question 2 [5.3]

A

*C* = 2π*r*

= 2 × π × 16 = 100.53 cm

Question 3 [5.3]

C

Perimeter of semicircle



Total perimeter = 25.13 + 8 + 8 = 41.13 cm

Question 4 [5.4]

D

Area of parallelogram = base × height

24 = base × 4  
base length = 24 ÷ 4 = 6 cm

Question 5 [5.4]

D

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

228 = (18 + 20) × *h*

*h* = 12 cm

Question 6 [5.5]

A

*A* = π*r*2



Question 7 [5.6]

D

Area of square = 8 × 8

= 64 cm2

Area of rectangle = 14 × 6

= 84 cm2

Total area = 64 + 84

= 148 cm2

Question 8 [5.4]

C

Area of triangle =  × base × height

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Question 9 [5.7]

D

Volume = length × width × height

420 = length × 5 × 7

length = 12 cm

Question 10 [5.8]

C

10:48 am to 10:58 am = 10 minutes

10:58 am to 2:58 pm = 4 hours

Total = 4 hours 10 minutes

Multiple-choice total marks: 10

Short answer section

Question 11 4 marks [5.1]

(a) Perimeter = 19.5 + 25 + 2 + 6 + 6 + 2 + 25 = 85.5 cm

(b) Perimeter  


Question 12 2 marks [5.1]

Perimeter = 7.1 × 6 = 42.6 cm

Question 13 7 marks [5.1]

(a) Perimeter = 6 + 5 + 5 + 6 + 12 + 17 + 12  
= 63 cm

(b) Perimeter = 60 cm + 0.4 m + 410 mm + 0.4 m  
= 60 + 40 + 41 + 40  
= 181 cm or 1.81 m or 1810mm

(c) Perimeter = 70 cm + 110 cm + 420 mm + 0.7 m + 1 m + 0.62 m + 600 mm  
= 70 cm + 110 cm + 42 cm + 70 cm + 100 cm + 62 cm + 60 cm  
= 514 cm

Question 14 2 marks [5.2]

Ratio of circumference to diameter



Question 15 4 marks [5.3]

(a) Circumference  
 

(b) Circumference part  
  
Perimeter = 28 + 6 + 6   
= 40 cm

Question 16 2 marks [5.4]

Area of parallelogram = base × height

= 22 × 14

= 308 cm2

Question 17 2 marks [5.4]

Area of trapezium   


Question 18 4 marks [5.4]

(a) Area of triangle  


(b) Area of parallelogram = *b* × *h* = 54 × 12 = 648 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 = 30 × 35 = 1050 cm2

Area of square tin = 30 × 30 = 900 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 – 34 minutes = 8:09 am

(b) 1st lesson started at 8:43 + 2 hours and 50 minutes = 11:41 am  
Recess ends at 11:41 + 30 mins = 12:11 pm

(c) 12:11 + 52 mins + 52 mins = 1:55 pm  
Lunch was at 1:55 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

 = 3221 cm2

(b) Total cost = 

Question 27 5 marks [5.5]

(a) Area of *D* = π × 62 = 36π cm2

Area of *E* = π × 32 = 9π cm2

= 4

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

(b) Area of *A* = π × 152 = 225π cm2  
Area of *B* = π × 122 = 144π cm2  
Area of *C* = π × 92 = 81π cm2  
  
Area of *C* + area of *D* = 81π + 9π = 90π cm2  
Area of *B* + area of *C* = 144π + 81π = 225π cm2  
 = area of *A*

Question 28 6 marks [5.6]

(a) Area of triangle =  × base × height  
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(b) Area of one billiard ball   
  
Area of 10 billiard balls   


(c) Area not used by triangle = 969.65 – 785.40  
= 184.25 cm2

(d) Number of billiard balls that can fit in unused space   
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Question 29 5 marks [5.7]

(a) Volume of pool = base area × height  
= 177.8 × 6  
= 1066.8 m3

(b) 1 m3 = 1000 L  
1066.8 × 1000 = 1 066 800 L

Extended answer total marks: 21

TOTAL test marks: 80