Quantitative Aptitude

Directions (1-3): Study the following information carefully and answer the given questions.

The following table shows the total amount spent on fencing the different types of land and the sides of the land also given. Some values are missing here.

	Fencing (Per m)	Total amount spent on fencing
Rectangle	Rs. 5	Rs. 500
Square	Rs. 8	Rs. 768
Circle	Rs. 10	Rs. 1320
Equilateral triangle	Rs. 12	Rs. 540

1) Find the length of the rectangle, if the area of the rectangle is 576 sq m.

A.44 m
B.40 m
C.36 m
D.32 m
E. None of these

2) Find the product of the area of square and the area of equilateral triangle.

A.32400√3 sq m
B.28600√3 sq m
C.30200√3 sq m
D.34800√3 sq m
E. None of these

3) If a 7 m wider path is inscribed in the circular land, then find the area of the path.

A.720 sq m
B.800 sq m
C.770 sq m
D.840 sq m
E. None of these

Directions (4-8): Study the following information carefully and answers the questions given below The given below table shows the values of various solid shapes.

Types of solids	Diameter	Length	Breadth	Height
Cylinder	-	-	-	12
Cube	-	-	16	-
Cuboids	-	22	-	18
Cone	21	-	-	-
Sphere	14	-	-	-

[Take approximate value]

4)

Quantity: I Difference of volume of cube and cylinder? [Diameter of a cylinder is 3/4th of the breadth of cube]

Quantity II: Difference of volume of cone and sphere? [Height of cone is average of length and height of cuboid]

A. Quantity: I < Quantity: II
B. Quantity: I ≥ Quantity: II
C. Quantity: II ≥ Quantity: I
D. Quantity: I > Quantity: II
E. Quantity I = Quantity II or relation can't be established

5) Diameter of the cylinder is 3/2 times the diameter of the sphere and the height of the cone is 2/3rd of the height of the cylinder. Find the ratio of the total surface area of the cylinder, cone and sphere.

A.500:2588:142
B.1520:258:2147
C.352:2548:2593
D.200:259:2158
E. 1485:776:616

6) Breadth of cuboid is the average of the radius of sphere and cone. Find the cost of painting 10 same cuboids of given dimension if the cost of painting Rs.3 per m^2.

A.41800
B.44125
C.45360
D.5582
E.41425

7)

Quantity I: Find the curved surface area of the cylinder? [Radius is half of the diameter of the sphere]
Quantity II: Find the curved surface area of the sphere?

A. Quantity: I < Quantity: II
B. Quantity: I ≥ Quantity: II
C. Quantity: II ≥ Quantity: I
D. Quantity: I > Quantity: II
E. Quantity I = Quantity II or relation can't be established

8) Find the difference between the volume of the cone and cylinder if the diameter of the cylinder is 2.5 times the diameter of the sphere and the height of the cone in 2/3rd height of cuboids?

A.12505
B.10164
C.14254
D.21533
E.12502

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Answer Key with Explanation

Directions (1-3):

Perimeter of rectangle = 500 / 5 = 100

= > 2 * (l + b) = 100

= > l + b = 50 m

Perimeter of square = 768 / 8 = 96

= > 4a = 96

= > a = 24 m

Perimeter of circle = 2 * (22/7) * r = 1320 / 10

= > r = 132 * (7/22) * (1/2) = 21 m

Perimeter of equilateral triangle = 3a = 540 / 12

= > a = 45 / 3 = 15 m

1) Answer: D

Area of rectangle = 576 sq m

= > lb = 576

= > l * (50 – l) = 576

= > 50l – l^2 = 576

= > l^2 – 50l + 576 = 0

= > (l - 32) (l - 18) = 0

= > l = 32, 18

If l = 32, then b = 18

If l = 18, then b = 32

The length of the rectangle is always greater than the breadth.

So, l = 32 m, b = 18 m

The length of the rectangle (l) = 32 m

2) Answer: A

The area of square = a^2 = 24^2 = (24 * 24) sq m

The area of equilateral triangle = (√3 / 4) * a^2 = [(√3 / 4) * 15 * 15] sq m

Required product = (24 * 24) * [(√3 / 4) * 15 * 15]

= > 32400√3 sq m

3) Answer: C

The area of the path

= > (22/7) * (21^2 – 14^2)

= > (22/7) * (21 + 14) (21 – 14)

= > (22/7) * 35 * 7

= > 770 sq m

4) Answer: D

Quantity I

Volume of cube=16*16*16=4096

Diameter of the cylinder is=3/4*16=12

So radius=12/2=6

Volume of cylinder is=22/7*6*6*12=1357.71=1358

So required difference is=4096 – 1358=2738

Quantity II

Height of cone =[22+18]/2= 20

Volume of cone=1/3*20*21/2*21/2*22/7=2310

Volume of sphere=4/3*22/7*7*7*7=1437.33=1438

So, the required difference=2310-1438= 872

Quantity I >Quantity II

5) Answer: E

Diameter of cylinder =3/2*14=21

So radius of cylinder =21/2

So, the total surface area of cylinder =2*22/7*21/2 * [21/2+12]=1485

Height of the cone=2/3*12=8

So, lateral side of cone=√(8*8+10.5*10.5)=√174.25=13

So, the total surface area of cone
=22/7*21/2*(13+21/2)= 775.5=776
The total surface area of
sphere=4*22/7*7*7=616
So, the required ratio=1485:776:616

6) Answer: C

Breadth of cuboids=[14/2+21/2]/2=8.75=9
Total surface area of
cuboids=2*[22*9+18*9+22*18]=1512
Total cost of painting=10*1512*3= Rs.45360

7) Answer: A

Quantity I

The Curved surface area of cylinder
is=2*22/7*12*7=528

Quantity II

The Curved surface area of sphere
=4*22/7*7*7= 616
Quantity I < Quantity II

8) Answer: B

Diameter of cylinder is=2.5*14=35
Radius of sphere =35/2=17.5
Volume of cylinder=22/7*35/2*35/2*12=11550
Height of cone=2/3*18=12
Volume of cone=1/3*12*21/2*21/2*22/7=1386
So difference=11550- 1386 =10164