BHARAT SCHOOL OF BANKING
AREA AND PERIMETER

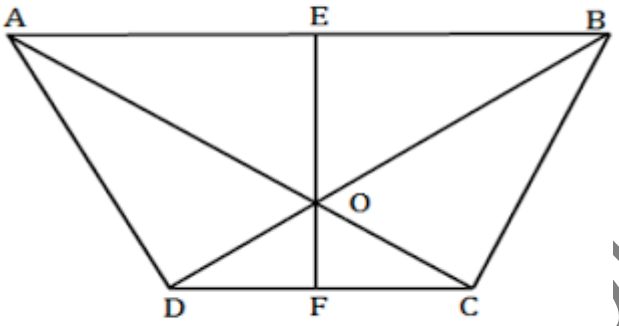
Q1. ABCD is a trapezium in which AB‖CD and AB = 2CD. If its diagonals intersect each other at O, the ratio of the area of triangle AOB and COD is:
(a) 1 : 2
(b) 2 : 1
(c) 1 : 4
(d) 4 : 1
(e) None of these

S1. Ans.(d)
Sol.

$\Delta OAB = \frac{1}{2} \times AB \times OE$

$= \frac{1}{2} \times 2CD \times OE$

$= CD \times OE$



$\Delta OCD = \frac{1}{2} \times CD \times OF$

$\therefore \frac{\Delta AOB}{\Delta COD} = \frac{CD \times OE}{\frac{1}{2} \times CD \times OF} = \frac{CD \times 2 \times OF}{\frac{1}{2} \times CD \times OF} = \frac{4}{1}$

4 : 1

Q2. The area of a rectangle is 12 m2 and its length is 3 times is breadth. What is the perimeter of the rectangle?
(a) 18 m
(b) 24 m
(c) 14 m
(d) Cannot be determined
(e) None of these

S2. Ans.(e)
Sol. Let, the breadth of the rectangle is x metres. Then we have,
x×3x=12
∴ x = 2 m [Breadth]
And, 3x = 6 m [Length]

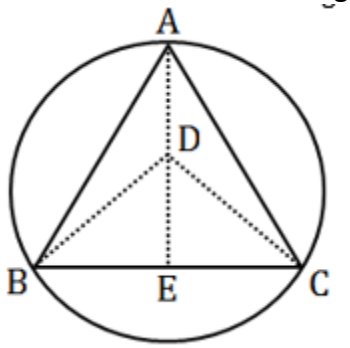
BHARAT SCHOOL OF BANKING
AREA AND PERIMETER

Thus the required perimeter
= 2(6 + 2) = 16 m

Q3. The magnitude of the area of a circle is 7 times that of its circumference. What is the circumference (in units) of the circle?
(a) 616
(b) 132
(c) 88
(d) Cannot be determined
(e) None of these

S3. Ans.(c)
Sol. We have πr^2=7×2πr
∴r=14
∴ Circumference =2πr=2×22/7×14=88

Q4. In the given figure ABC is an equilateral triangle which is inscribed in a circle of radius r. Which one of the following is the area of the triangle?



(a) $(r - DE)^{1/2} (r + DE)^2$
(b) $(r - DE)^2 (r + DE)^2$
(c) $(r - DE)^{1/2} (r + DE)^{3/2}$
(d) $(r + DE)^{1/2} (r - DE)^{3/2}$
(e) None of these

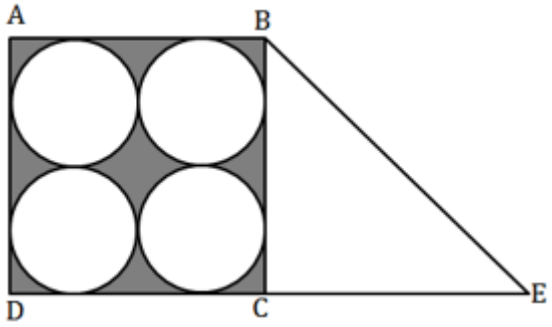
BHARAT SCHOOL OF BANKING
AREA AND PERIMETER

S4. Ans.(c)
Sol. Area of the $\Delta = \frac{1}{2} \times AE \times BC$
$= \frac{1}{2} \times 2 \times AE \times BE \quad \left(\text{Because } BE = \frac{1}{2} BC\right)$
$= AE \times BE$
$= (AD + DE) \times \sqrt{BD^2 - DE^2}$
$= (r + DE) \times \sqrt{r^2 - DE^2}$
$= (r + DE) \times (r - DE)^{1/2} (r + DE)^{1/2}$
$= (r + DE)^{3/2} . (r - DE)^{1/2}$

Q5. The radius of a circle is 20% more than the height of a right angled triangle. The base of the right angled triangle is 36 cm. If the area of the right angled triangle is equal to the area of the circle, then what is the approximate area of the circle?
(a) 72 cm2
(b) 144 cm2
(c) 216 cm2
(d) 128 cm2
(e) None of these

S5. Ans.(a)
Sol. Let, the radius of the circle and the height of the right angled Δ be r and h respectively.
$\therefore r = \frac{(100 + 20)}{100} h$
And, area of $\Delta = \frac{1}{2} \times h \times 36 = 18h$
∴ Area of the circle = 18h
$\therefore \pi r^2 = 18h$
$\Rightarrow \frac{22}{7} r^2 = \frac{18 \times 100 \times r}{120}$
$\therefore r = \frac{18 \times 100 \times 7}{120 \times 22} = 4.77$
$\therefore$ Area of the circle $= \frac{22}{7} r^2 = \frac{22}{7} \times 4.77 \times 4.77$
$= 72 \text{ cm}^2$ (Approx.)

Directions:(6-7): Study the following diagram to answer the questions.



BHARAT SCHOOL OF BANKING
AREA AND PERIMETER

Q6.If the diameter of each circle is 14 cm and DC = CE, the area of ΔBDE is:
(a) 784 cm^2
(b) 748 cm^2
(c) 874 cm^2
(d) 441 cm^2
(e) None of these

S6. Ans.(a)
Sol. In ΔBDE
DC = 28 cm (because diameter of each circle is 14 cm)
Now, DE = DC + CE = 28 + 28 = 56 m
And BC = 28 cm
Again, area of ΔBDE
=1/2×DE×BC=1/2×56×28=784 m^2

Q7. The area of the shaded region of square ABCD is
(a) 186 cm^2
(b) 168 cm^2
(c) 188 cm^2
(d) 441 cm^2
(e) None of these

S7. Ans.(b)
Sol. Area of the square = 28 × 28 = 784 cm2
Area of the four circles = 4πr^2
=4×22/7×7×7 = 28×22 = 616 m2
∴ Area of shaded parts = 784 – 616 = 168 cm2

Q8. The smallest side a right-angled triangle is 8 cm less than the side of a square of perimeter 56 cm. The second largest side of the right-angled triangle is 4 cm less than the length of the rectangle of area 96 cm2 and breadth 8 cm. what is the largest side of the right-angled triangle?

(a) 20 cm
(b) 12 cm
(c) 10 cm
(d) 15 cm
(e) None of these

BHARAT SCHOOL OF BANKING
AREA AND PERIMETER

S8. Ans.(c)
Sol. Side of the square = $\frac{56}{4}$ = 14 cm
∴ Smallest side of the triangle = 14 – 8 = 6 cm
Length of the rectangle = $\frac{96}{8}$ = 12 cm
Second largest side of the triangle = 112 – 4 = 8 cm
∴ Largest side of the triangle = $\sqrt{6^2 + 8^2}$
= $\sqrt{36 + 64} = \sqrt{100}$ = 10 cm

Q9. The perimeter of a square is equal to twice the perimeter of a rectangle whose dimensions are: length 8 cm and breadth 7 cm. What is the circumference of a semicircle whose diameter is equal to the side of the square?
(Rounded off of the decimal place)
(a) 38.57 cm
(b) 23.57 cm
(c) 42.46 cm
(d) 47.47 cm
(e) None of these

S9. Ans.(a)
Sol. Perimeter of the rectangle = 2(8 + 7) = 30 cm
Perimeter of the square = 2 × 30 = 60 cm
∴ Side of the square =1/4×60 = 15 cm
Circumference of the required semi-circle
=πr+2r = 22/7×15/2 + 2×15/2 = 38.57 cm

Q10. The length of a rectangular floor is twice its breadth. If Rs.256 is required to paint the floor at the rate of Rs.2 per square metre, then what would be the length of floor?
(a) 16 metres
(b) 8 metres
(c) 12 metres
(d) 32 metres
(e) 20 metres

S10. Ans.(a)
Sol. Let the breadth be x.
Then, length = 2x.
∴ $2x^2 = \frac{256}{2} \Rightarrow x^2 = 64$
x = 8
Length = 16 m

BHARAT SCHOOL OF BANKING
AREA AND PERIMETER

Read more: http://www.bankersadda.com/p/quant-quiz-area-and-perimeter-for.html#ixzz4bxFqokJb