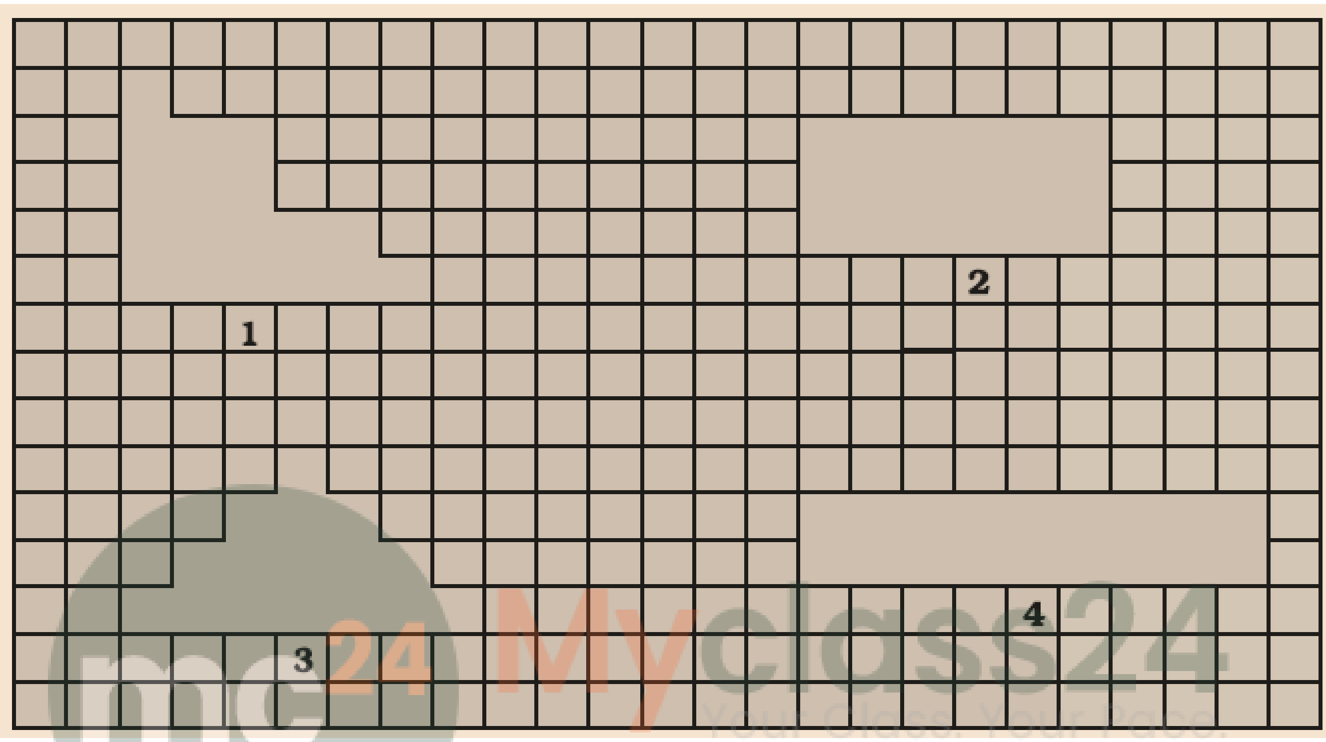
EXERCISE

In Questions 1 to 37, there are four options, out of which one is correct. Choose the correct one.

1. Observe the shapes 1, 2, 3 and 4 in the figures. Which of the following statements is not correct?



(a) Shapes 1, 3 and 4 have different areas and different perimeters.

(b) Shapes 1 and 4 have the same area as well as the same perimeter.

(c) Shapes 1, 2 and 4 have the same area.

(d) Shapes 1, 3 and 4 have the same perimeter.

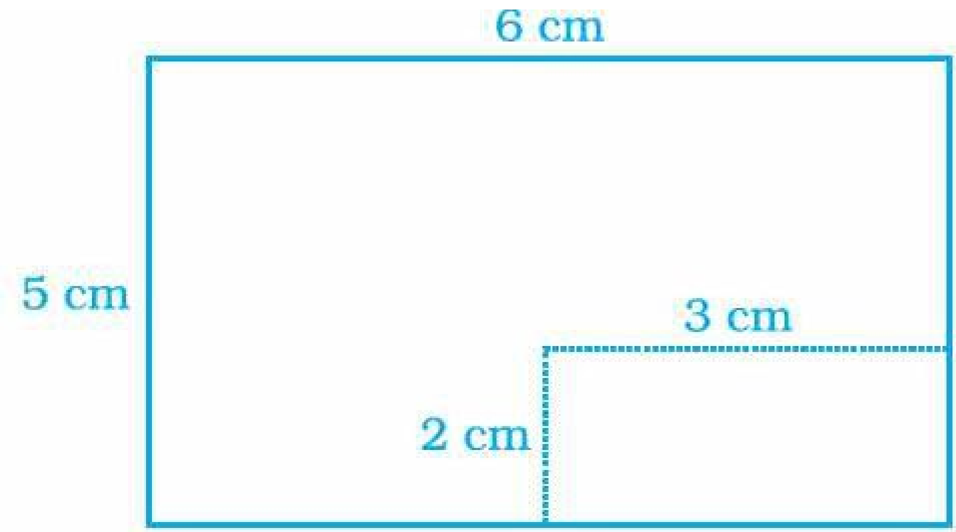
Solution:-

(a) Shapes 1, 3 and 4 have different areas and different perimeters.

Shapes 1, 3 and 4 have the same area and same perimeter.

2. A rectangular piece of dimensions 3 cm × 2 cm was cut from a rectangular sheet of paper of dimensions 6 cm × 5 cm (Fig. 9.14).

Area of remaining sheet of paper is



(a) 30 cm² (b) 36 cm² (c) 24 cm² (d) 22 cm²

Solution:-

(c) 24 cm^2

First we have to calculate the area of rectangular piece = length × breadth

= 2 cm × 3 cm

= 6 cm^2

So, area of sheet of paper of dimensions 6 cm × 5 cm

= 30 cm^2

Then, Area of remaining sheet of paper is = 30 cm – 6 cm

= 24 cm^2

3. 36 unit squares are joined to form a rectangle with the least perimeter. The perimeter of the rectangle is

(a) 12 units (b) 26 units (c) 24 units (d) 36 units

Solution:-

(b) 26 units

From the question, it is given that, the area of rectangle = 36 $units^2$

36 can be written as = 6 × 6

= (2 × 3) × (2 × 3)

= $2^2 \times 3^2$

= 4 × 9

Then, the sides of the rectangle are 4 cm and 9 cm.

We know that, perimeter of the rectangle = 2 (length + breadth)

= 2 (4 + 9)

= 2 (13)

= 26 units

4. A wire is bent to form a square of side 22 cm. If the wire is rebent to form a circle, its radius is

(a) 22 cm (b) 14 cm (c) 11 cm (d) 7 cm

Solution:-

(b) 14 cm

From the question it is given that, side of square is 22 cm.

And also, perimeter of a square and circumference of circle are equal, because the length of the wire is same.

Perimeter of square = circumference of circle

$4 \times \text{side} = 2 \times \pi \times r$

$4 \times 22 = 2 \times (22/7) \times r$

$r = (4 \times 22 \times 7)/(2 \times 22)$

r = 14 cm

Therefore, radius of circle is 14 cm.

5. Area of the circle obtained in Question 4 is

(a) 196 cm^2 (b) 212 cm^2 (c) 616 cm^2 (d) 644 cm^2

Solution:-

(c) 616 cm^2

We know that, area of circle = πr^2

$= (22/7) \times 14 \times 14$

$= 22 \times 14 \times 2$

= 616 cm^2

6. Area of a rectangle and the area of a circle are equal. If the dimensions of the rectangle are 14cm × 11 cm, then radius of the circle is

(a) 21 cm (b) 10.5 cm (c) 14 cm (d) 7 cm.

Solution:-

(d) 7 cm

From the question it is given that, dimensions of rectangle length = 14 cm, breadth = 11 cm

As area of rectangle = area of circle

$\text{length} \times \text{breadth} = \pi r^2$

$14 \times 11 = (22/7) \times r^2$

$r^2 = (14 \times 11 \times 7)/22$

$r^2 = 49$

r = √49

r = 7 cm

7. Area of shaded portion in Fig. 9.15 is

(a) 25 cm² (b) 15 cm² (c) 14 cm² (d) 10 cm²

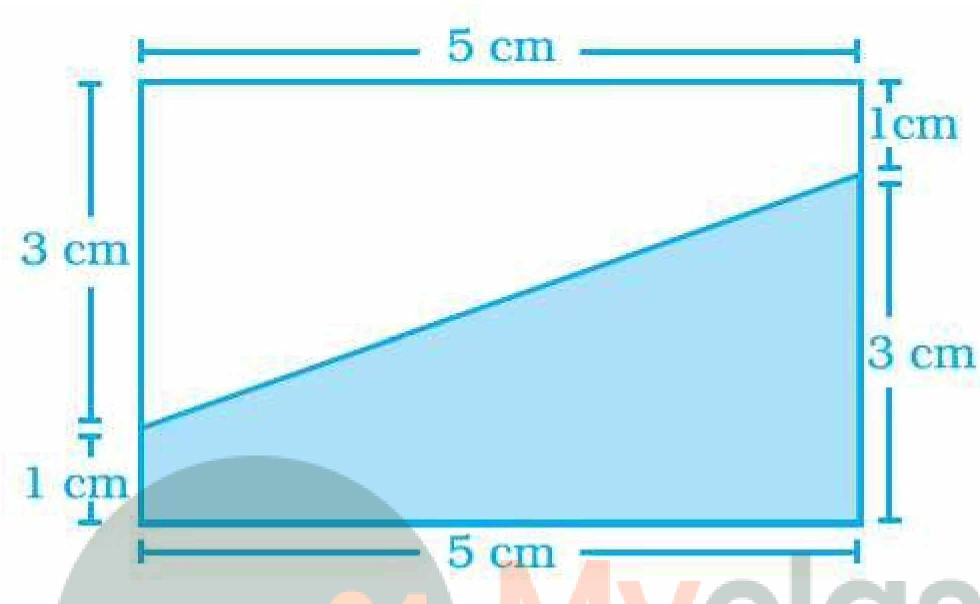


Fig. 9.15

Solution:-

(d) 10 cm²

From the figure, length of rectangle = 5 cm and,

breadth of the rectangle = 3 cm + 1 cm = 4 cm

So, area of rectangle = length × breadth

= 5 × 4

= 20 cm²

By observing the figure, the shaded part covered exactly half of the rectangle,

Therefore, area of shaded part is = area of rectangle/2

= 20/2

= 10 cm²

8. Area of parallelogram ABCD (Fig. 9.16) is not equal to

(a) DE × DC (b) BE × AD (c) BF × DC (d) BE × BC

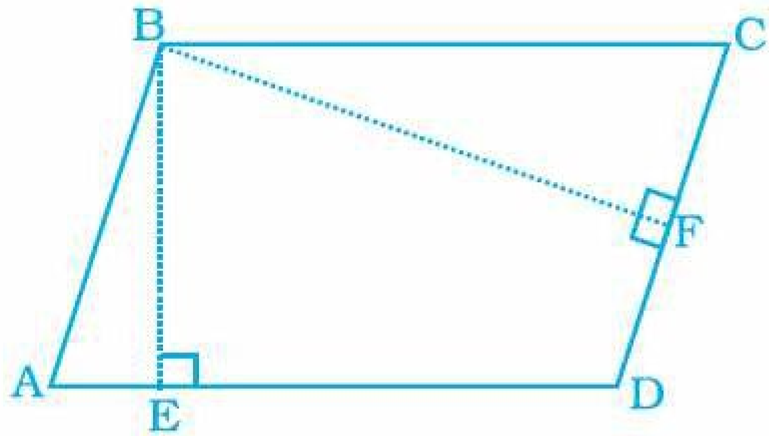


Fig. 9.16

Solution:-

(a) DE × DC

We know that, area of parallelogram = base × corresponding height

Then, area of parallelogram ABCD = DC × BF

AD × BE = BC × BE … [because AD = BC]

9. Area of triangle MNO of Fig. 9.17 is

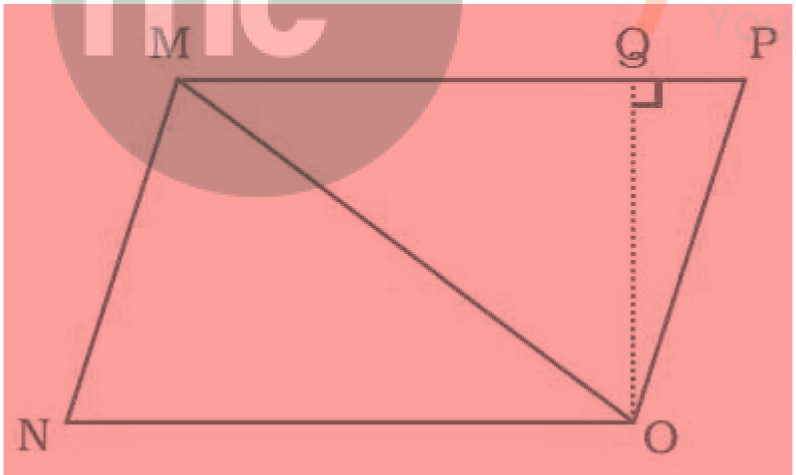


Fig. 9.17

(a) ½ MN × NO (b) ½ NO × MO

(c) ½ MN × OQ (d) ½ NO × OQ

Solution:-

(d) ½ NO × OQ

MNO is a triangle.

We know that, area of triangle = ½ (base × height)

= ½ × NO × OQ

10. Ratio of area of ΔMNO to the area of parallelogram MNOP in the same figure 9.17 is (a) 2 : 3 (b) 1 : 1 (c) 1 : 2 (d) 2 : 1

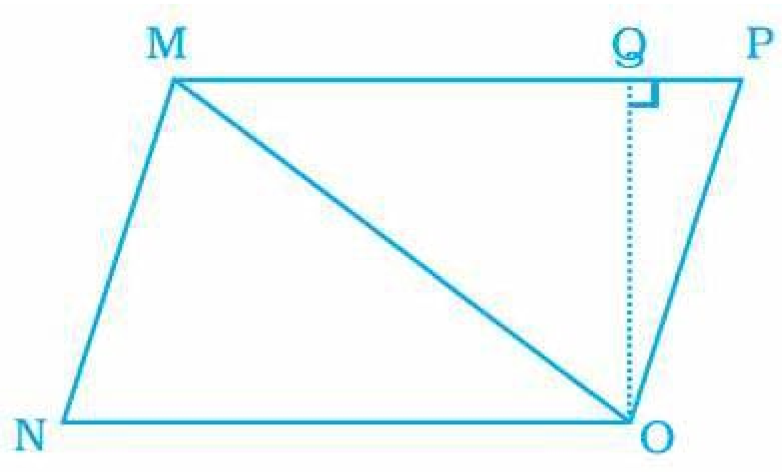


Fig. 9.17

Solution:-

(c) 1 : 2

From the figure,

Area of ΔMNO = ½ × base × height

= ½ × NO × OQ

Area of parallelogram MNOP = base × corresponding height

= MP × OQ

= NO × OQ … [from the figure MP = NO]

Then, ratio of parallelogram and triangle = (½ × NO × OQ)/(NO × OQ)

= ½

= 1: 2

11. Ratio of areas of ΔMNO, ΔMOP and ΔMPQ in Fig. 9.18 is

(a) 2 : 1 : 3 (b) 1 : 3 : 2 (c) 2 : 3 : 1 (d) 1 : 2 : 3

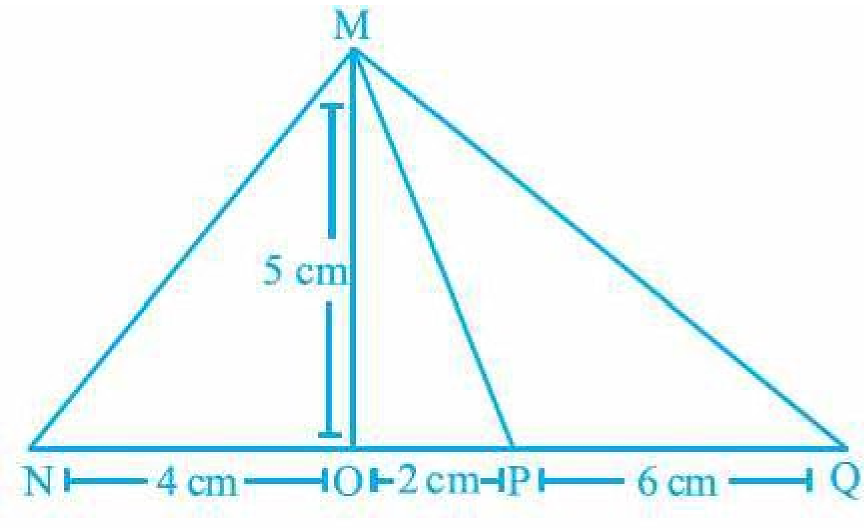


Fig. 9.18

Solution:-

(a) 2 : 1 : 3

We know that, area of triangle = ½ × base × height

So, area of triangle MNO = ½ × NO × MO

= ½ × 5 × 4

= ½ × 20

= 10 cm^2

Area of triangle MOP = ½ × MO × OP

= ½ × 5 × 2

= ½ × 10

= 5 cm^2

Area of triangle MPQ = ½ × MO × PQ [MP = MO]

= ½ × 5 × 6

= ½ × 30

= 15 cm^2

So, the ratios of area = 10: 5: 15 … [divide each by 5]

Then we get, 2: 1: 3

12. In Fig. 9.19, EFGH is a parallelogram, altitudes FK and FI are 8 cm and 4cm, respectively. If EF = 10 cm, then area of EFGH is

(a) 20 cm^2 (b) 32 cm^2 (c) 40 cm^2 (d) 80 cm^2

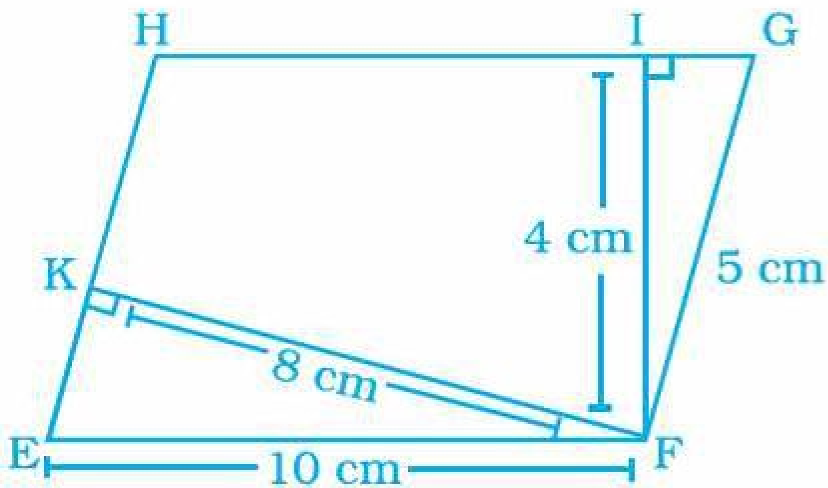


Fig. 9.19

Solution:-

(c) 40 cm^2

From the figure,

Consider the parallelogram EFGH,

EF = HG = 10 cm … [from the question]

We know that, area of parallelogram EFGH = Base × corresponding height

= 10 × 4

= 40 cm^2

13. In reference to a circle the value of π is equal to

(a) area/circumference (b) area/diameter

(c) circumference/diameter (d) circumference/radius

Solution:-

(c) circumference/diameter

We know that, circumference of circle = 2πr

Then, π = circumference/2r

Therefore, π = circumference/diameter … [2r = diameter]

14. Circumference of a circle is always

(a) more than three times of its diameter

(b) three times of its diameter

(c) less than three times of its diameter

(d) three times of its radius

Solution:-

(a) more than three times of its diameter

15. Area of triangle PQR is 100 cm² (Fig. 9.20). If altitude QT is 10 cm, then its base PR is

(a) 20 cm (b) 15 cm (c) 10 cm (d) 5 cm

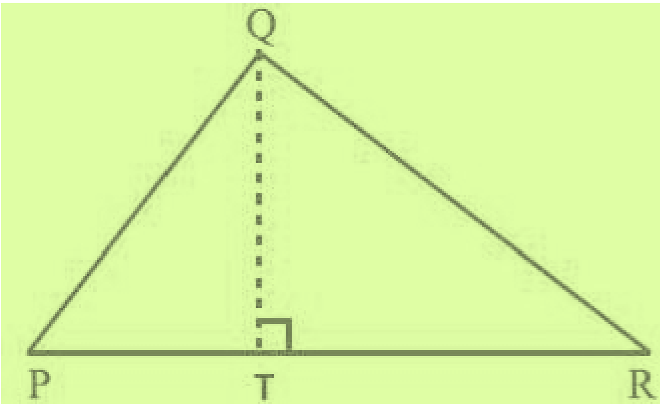


Fig. 9. 20

Solution:-

(a) 20 cm

We know that, area of triangle = ½ × base × height

From the question, it is given that, area of triangle PQR = 100 cm^2

Height of the triangle = 10 cm = altitude

Therefore, area of triangle = ½ × base × height

100 = ½ × PR × 10

PR = (100 × 2)/10

PR = 200/10

PR = 20 cm

16. In Fig. 9.21, if PR = 12 cm, QR = 6 cm and PL = 8 cm, then QM is

(a) 6 cm (b) 9 cm (c) 4 cm (d) 2 cm

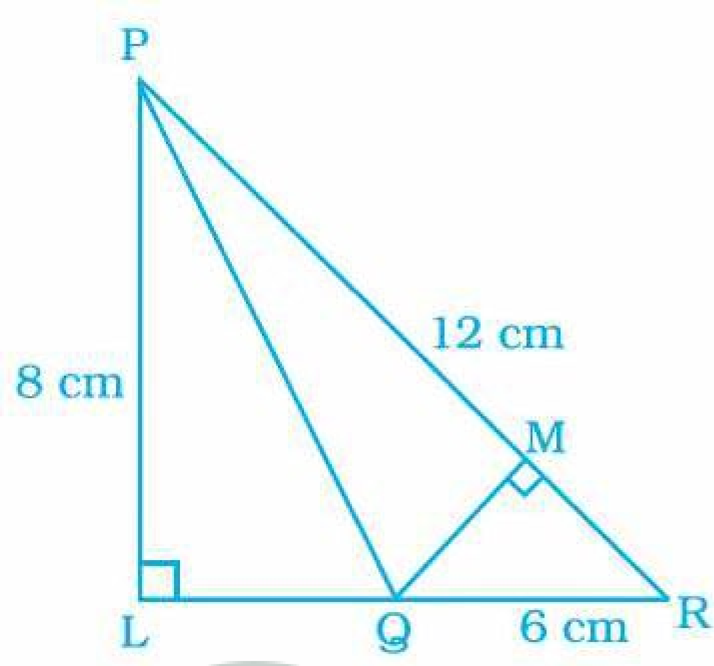


Fig. 9.21

Solution:-

(c) 4 cm

From the question it is given that, PR = 12 cm, QR = 6 cm, PL = 8 cm

We know that, by the Pythagoras theorem

$\text{Hypotenuse}^2 = \text{perpendicular}^2 + \text{base}^2$

In the given figure,

$PR^2 = PL^2 + LR^2$

$LR^2 = PR^2 - PL^2$

$LR^2 = 12^2 - 8^2$

$LR^2 = 144 - 64$

$LR^2 = 80$

By transferring the square it becomes,

$LR = \sqrt{80}$

Therefore, $LR = 4\sqrt{5}$

Then,

LR = LQ + QR

LQ = LR – QR

LQ = $4\sqrt{5} - 6$

We know that, area of triangle PLR = ½ × LR × PL

= $\frac{1}{2} \times 4\sqrt{5} \times 8$

= $1 \times 4\sqrt{5} \times 4$

= $16\sqrt{5}$

Now, area of triangle PLQ = ½ × LQ × PL

= $\frac{1}{2} \times (4\sqrt{5} - 6) \times 8$

= $4(4\sqrt{5} - 6)$

= $16\sqrt{5} - 24$ cm^2

So, Area of PLR = Area of PLQ + Area of PQR

$16\sqrt{5} = (16\sqrt{5} - 24)$ + Area of PQR

Therefore, Area of PQR = 24 cm^2

½ × PR × QM = 24

½ × 12 × QM = 24

6 × QM = 24

QM = 24/6

QM = 4 cm

17. In Fig. 9.22 Δ MNO is a right-angled triangle. Its legs are 6 cm and 8 cm long. Length of perpendicular NP on the side MO is

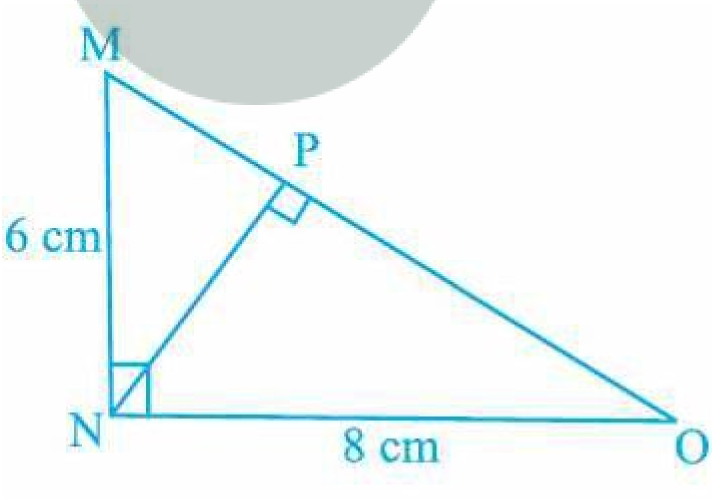


Fig. 9.22

(a) 4.8 cm (b) 3.6 cm (c) 2.4 cm (d) 1.2 cm

Solution:-

(a) 4.8 cm

From the question it is given that,

Δ MNO is a right-angled triangle, its legs are 6 cm and 8 cm long.

By the rule of Pythagoras theorem,

$Hypotenuse^2 = perpendicular^2 + base^2$

In the given figure,

$MO^2 = MN^2 + NO^2$

$MO^2 = 6^2 + 8^2$

$MO^2 = 36 + 64$

$MO^2 = 100$

MO = √100

MO = 10 cm

Then, consider the triangle MNO,

Area of triangle MNO = ½ × MN × NO = ½ × MO × NP

= ½ × 6 × 8 = ½ × 10 × NP

Therefore, NP = 24/5

NP = 4.8 cm

18. Area of a right-angled triangle is 30 cm^2. If its smallest side is 5 cm, then its hypotenuse is

(a) 14 cm (b) 13 cm (c) 12 cm (d) 11cm

Solution:-

(b) 13 cm

We know that, area of triangle = ½ × base (small side) × height

30 = ½ × 5 cm × height

Height = (30 × 2)/5

Height = 60/5

Height = 12 cm

By the rule of the Pythagoras theorem,

$Hypotenuse^2 = height^2 + base^2$

$Hypotenuse^2 = 12^2 + 5^2$

$Hypotenuse^2 = 144 + 25$

$Hypotenuse^2 = 169$

Hypotenuse = √169

Hypotenuse = 13 cm

19. Circumference of a circle of diameter 5 cm is

(a) 3.14 cm (b) 31.4 cm (c) 15.7 cm (d) 1.57 cm

Solution:-

(c) 15.7 cm

From the question, it is given that, diameter = 5 cm

Radius = diameter/2

Radius = 5/2 = 2.5 cm

Circumference of a circle = 2πr

= 2 × (22/7) × 2.5

= 15.7 cm

20. Circumference of a circle disc is 88 cm. Its radius is

(a) 8 cm (b) 11 cm (c) 14 cm (d) 44 cm

Solution:-

(c) 14 cm

Circumference of a circle = 2πr

88 = 2 × (22/7) × r

(88 × 7)/(2 × 22) = r

r = 14 cm

21. Length of tape required to cover the edges of a semicircular disc of radius 10 cm is (a) 62.8 cm (b) 51.4 cm (c) 31.4 cm (d) 15.7 cm

Solution:-

(b) 51.4 cm

From the question, it is given that, radius of semicircular disc 10 cm

We know that, perimeter of semicircular disc = circumference of semicircle + diameter

Circumference of semicircle = 2πr/2

= πr

= (22/7) × 10

= 31.4 cm

Then, total tape required = 31.4 + 10 + 10

= 51.4 cm

22. Area of a circular garden with a diameter 8 m is

(a) 12.56 m^2 (b) 25.12 m^2 (c) 50.24 m^2 (d) 200.96 m^2

Solution:-

(c) 50.24 m^2

We know that, area of circle = πr^2

Diameter = 8m

Then, radius = 8m/2

Radius = 4 m

So, area = (22/7) × 4 × 4

= 50.24 m^2

23. Area of a circle with diameter 'm' radius 'n' and circumference 'p' is

(a) $2\pi n$ (b) πm^2 (c) πp^2 (d) πn^2

Solution:-

(d) πn^2

We know that, area of circle = πr^2

Where r = radius = n

24. A table top is semicircular in shape with diameter 2.8 m. Area of this tabletop is

(a) 3.08 m^2 (b) 6.16 m^2 (c) 12.32 m^2 (d) 24.64 m^2

Solution:-

(a) 3.08 m^2

From the question it is given that, diameter of semicircular shape = 2.8 m

So, radius of semicircular shape = 2.8/2 = 1.4 m

Then, area of semicircular shape of table top = $\pi r^2/2$

= ((22/7) × 1.4 × 1.4)/2

= 3.08 m^2

25. If 1m^2 = x mm^2, then the value of x is

(a) 1000 (b) 10000 (c) 100000 (d) 1000000

Solution:-

(d) 1000000

We know that, 1 m = 100 cm

1 cm = 10 mm

So, 1 m = 10 × 100

1 m = 1000 mm

Then, 1 m^2 = 1000 × 1000

1 m^2 = 1000000

26. If p squares of each side 1 mm makes a square of side 1cm, then p is equal to

(a) 10 (b) 100 (c) 1000 (d) 10000

Solution:-

From the question, it is given that, if p squares of each side 1mm makes a square of side 1cm.

We know that, area of square of side 1mm = side × side

= 1 × 1

= 1 mm^2

Then, area of square of side 1cm = side × side

= 1 × 1

= 1 cm^2

So, area of square of side 1mm = area of square of side 1cm

P × 1 mm^2 = 1 cm^2

Pmm^2 = $(10mm)^2$

Therefore, Pmm^2 = 100 mm^2

27. 12 m^2 is the area of

(a) a square with side 12 m

(b) 12 squares with side 1 m each

(c) 3 squares with side 4 m each

(d) 4 squares with side 3 m each

Solution:-

(b) 12 squares with side 1m each

Area of square = side × side

Area of square of 1 m side = 1 × 1

= 1 m^2

Therefore, area of 12 squares of 1 m side = 12 × 1

= 12 m^2

28. If each side of a rhombus is doubled, how much will its area increase?

(a) 1.5 times (b) 2 times (c) 3 times (d) 4 times

Solution:-

(b) 2 times

Consider b as the side and h as the height of a rhombus.

Area of rhombus = b x h [Since, area of rhombus = base x corresponding height]

Here, if each side of rhombus is doubled, then the side of rhombus = 2b

Area of rhombus = 2b x h = 2(b x h) = 2 times of original

Hence, if each side of a rhombus is doubled, its area will be increased by 2 times.

29. If the sides of a parallelogram are increased to twice their original lengths, how much will the perimeter of the new parallelogram be?

(a) 1.5 times (b) 2 times (c) 3 times (d) 4 times

Solution:-

(b) 2 times

We know that, perimeter of parallelogram = 2 (length + breadth)

If the sides of a parallelogram are increased to twice its original lengths,

= 2 (2length + 2breadth)

= 2 × 2 (length + breadth)

Hence, the perimeter will increase by 2 times the perimeter of the original parallelogram.

30. If the radius of a circle is increased to twice its original length, how much will the area of the circle increase?

(a) 1.4 times (b) 2 times (c) 3 times (d) 4 times

Solution:-

(d) 4 times

We know that, area of the circle = πr^2

Where, r = radius of original circle

Then, radius is doubled = 2r

Then, area of new circle = $\pi(2r)^2$

= $\pi 4r^2$

Hence, the area will increase by 4 times the area of the original circle.

31. What will be the area of the largest square that can be cut out of a circle of radius 10 cm?

(a) 100 cm^2 (b) 200 cm^2 (c) 300 cm^2 (d) 400 cm^2

Solution:-

(b) 200 cm^2

From the question, it is given that, radius of circle 10 cm.

Square has diagonal equal to its diameter.

Diameter = 2 × radius

= 2 × 10

= 20 cm

Then, let us assume the side of the square be P.

So, area of square be P^2.

By the rule of the Pythagoras theorem,

$Diagonal^2 = height^2 + base^2$

$20^2 = P^2 + P^2$

$20^2 = 2P^2$

$400 = 2P^2$

$P^2 = 400/2$

$P^2 = 200\ cm^2$

Therefore, the area of the largest square that can be cut out of a circle of radius 10 cm is $200 cm^2$.

32. What is the radius of the largest circle that can be cut out of the rectangle measuring 10 cm in length and 8 cm in breadth?

(a) 4 cm (b) 5 cm (c) 8 cm (d) 10 cm

Solution:-

(a) 4 cm

From the question, it is given that, the largest circle can be cut out of the rectangle measuring 10 cm in length and 8 cm in breadth.

Diameter of circle = 8 cm

Then, radius = diameter/2

= 8/2

= 4 cm

33. The perimeter of the figure ABCDEFGHIJ is

(a) 60 cm (b) 30 cm (c) 40 cm (d) 50 cm

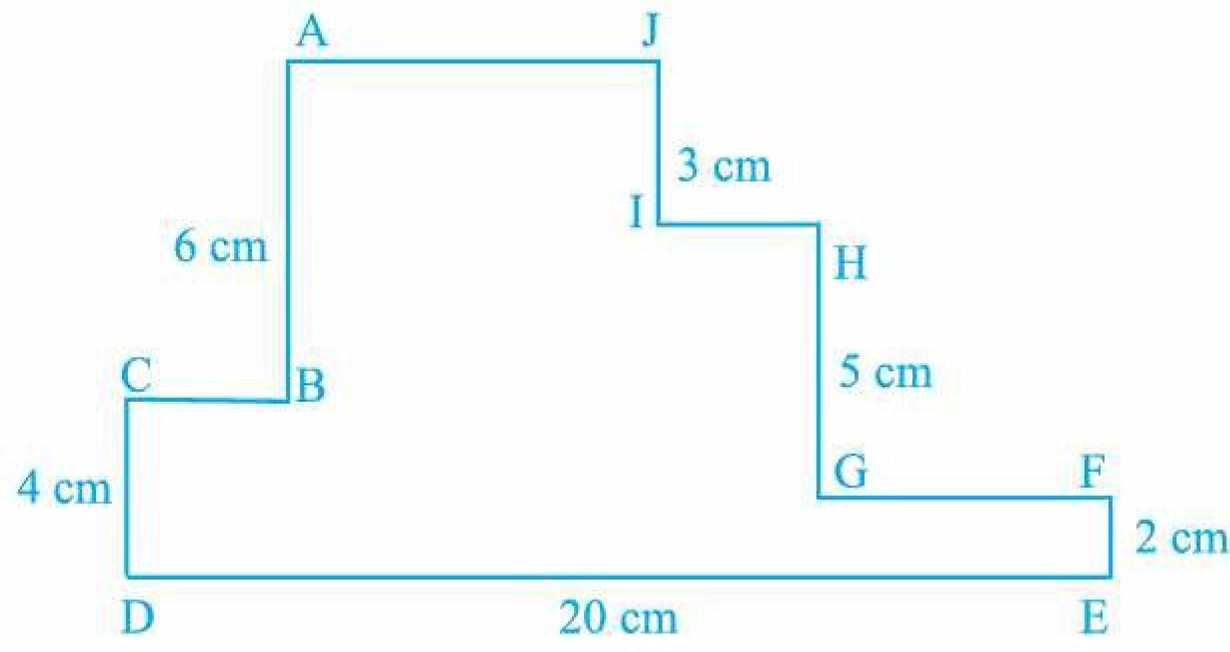


Fig. 9.23

Solution:-

(a) 60 cm

Perimeter of the given figure = AB + BC + CD + DE + EF + FG + GH + IH + IJ + AJ

= (AJ + IH + GF + BC = DE) + 3 + 5 + 2 + 20 + 4 + 6

= 20 + 40

= 60 cm

34. The circumference of a circle whose area is 81πr², is

(a) 9πr (b) 18πr (c) 3πr (d) 81πr

Solution:-

(b) 18πr

Let us assume R be the radius of circle

We know that, area of circle = πR^2

$81\pi r^2 = \pi R^2$

R = √81 r

R = 9r

Circumference = 2 πR

= 2 π (9r)

= 18πr

35. The area of a square is 100 cm². The circumference (in cm) of the largest circle cut of it is

(a) 5 π (b) 10 π (c) 15 π (d) 20 π

Solution: –

(b) 10 π

Let us assume the side of the square be x.

From the question, it is given that, area of a square is 100 cm^2

We know that, area of square = 100 cm^2

$x^2 = 100\ cm^2$

$x = \sqrt{100\ cm^2}$

x = 10 cm

So, for the largest circle in the square, diameter of the circle must be equal to the side of the square.

Diameter = 10 cm = side of square

2r = 10 cm

r = 10/2

r = 5 cm

then, circumference of circle = 2 πr

= 2 × π × 5

= 10 π

36. If the radius of a circle is tripled, the area becomes

(a) 9 times (b) 3 times (c) 6 times (d) 30 times

Solution:-

(a) 9 times

Area of circle = πr^2

From the question, the radius of a circle is tripled = 3r

Then, area = $\pi(3r)^2$

= $9\pi r^2$

37. The area of a semicircle of radius 4r is

(a) $8\pi r^2$ (b) $4\pi r^2$ (c) $12\pi r^2$ (d) $2\pi r^2$

Solution:-

(a) $8\pi r^2$

We know that, area of semicircle = $\pi r^2/2$

Then, the area of a semicircle of radius 4r is = $(\pi(4r)^2)/2$

$= 16\pi r^2/2$

$= 8\pi r^2$

In Questions 38 to 56, fill in the blanks to make the statements true.

38. Perimeter of a regular polygon = length of one side × ___________.

Solution:-

Perimeter of a regular polygon = length of one side × (number of sides)

39. If a wire in the shape of a square is rebent into a rectangle, then both shapes remain the same, but may vary.

Solution:-

If a wire in the shape of a square is rebent into a rectangle, then the perimeter of both shapes remain same, but area may vary.

40. Area of the square MNOP of Fig. 9.24 is 144 cm². Area of each triangle is .

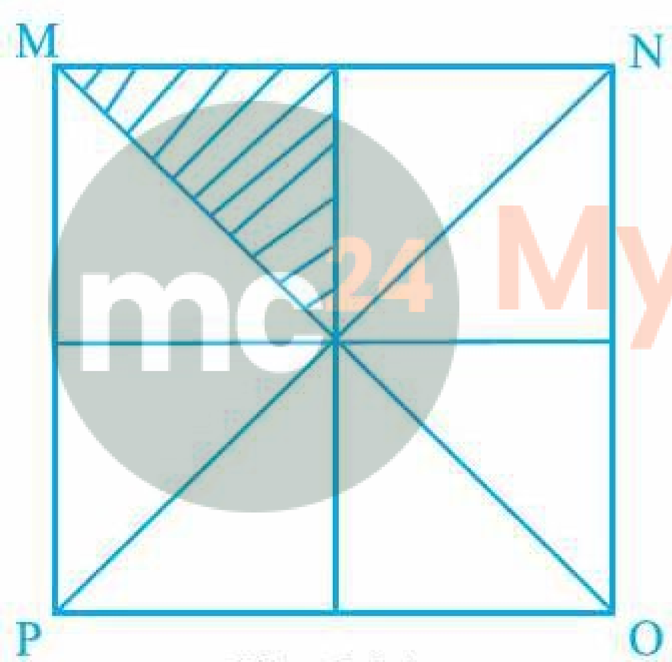


Fig. 9.24

Solution:-

Area of the square MNOP of Fig. 9.24 is 144 cm². Area of each triangle is 18cm².

From the question it is given that, Area of the square MNOP is 144 cm².

Then, area of triangle = (1/8) × Area of the square MNOP

$= 1/8 \times 144$

$= 18$ cm²

41. In Fig. 9.25, area of parallelogram BCEF is cm² where ACDF is a rectangle.

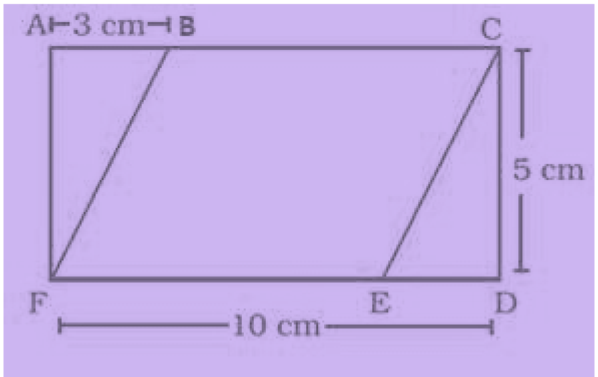


Fig. 9.25

Solution:-

In area of parallelogram BCEF is 35cm² where ACDF is a rectangle.

From the figure FE = FD – AB

= 10 – 3

= 7 cm

Then, area of parallelogram = base × height

= FE × CE [CD = CE]

= FE × CD

= 7 × 5

= 35 cm²

42. To find area, any side of a parallelogram can be chosen as of the parallelogram.

Solution:-

To find area, any side of a parallelogram can be chosen as base of the parallelogram.

43. Perpendicular dropped on the base of a parallelogram from the opposite vertex is known as the corresponding height/altitude of the base.

Solution:-

Perpendicular dropped on the base of a parallelogram from the opposite vertex is known as the corresponding height/altitude of the base.

44. The distance around a circle is its .

Solution:-

The distance around a circle is its circumference.

45. Ratio of the circumference of a circle to its diameter is denoted by symbol .

Solution:-

Ratio of the circumference of a circle to its diameter is denoted by symbol π.

46. If area of a triangular piece of cardboard is 90 cm^2, then the length of altitude corresponding to 20 cm long base is cm.

Solution:-

If area of a triangular piece of cardboard is 90 cm^2, then the length of altitude corresponding to 20 cm long base is 9cm.

We know that, area of triangle = ½ × base × height

90 = ½ × 20 × height

Height = 9 cm

47. Value of π is approximately .

Solution:-

Value of π is (22/7)=3.14 approximately.

48. Circumference 'C' of a circle can be found by multiplying diameter 'd' with .

Solution:-

Circumference 'C' of a circle can be found by multiplying diameter 'd' with π.

We know that, circumference of circle when radius is considered = 2 πr

When diameter is considered = πd

49. Circumference 'C' of a circle is equal to 2π × .

Solution:-

Circumference 'C' of a circle is equal to 2π × r.

50. 1 m^2 = cm^2.

Solution:-

1 m^2 = 10000 cm^2.

We know that, 1 m = 100 cm

1 m^2 = 100^2 cm^2

51. 1 cm^2 = mm^2.

Solution:-

1 cm^2 = 100 mm^2.

We know that, 1 cm = 10 mm

1 cm^2 = 10^2 mm^2

52. 1 hectare = m^2.

Solution:-

1 hectare = 10,000 m^2

53. Area of a triangle = ½ × base × .

Solution:-

Area of a triangle = ½ × base × height.

54. 1 km^2 = m^2.

Solution: –

1 km^2 = 10,00,000 m^2.

We know that, 1 km = 1000 m

1 km^2 = 1000^2 m^2

55. Area of a square of side 6 m is equal to the area of squares of each side 1 cm.

Solution:-

Area of a square of side 6 m is equal to the area of 3,60,000 squares of each side 1 cm.

Let us assume the number of squares having side of 1 cm be ‘x’.

As per the condition in the question,

Area of the side 6 m square = Area of side 1 cm square

$(6m)^2 = x(1cm)^2$

360000 cm^2 = x cm^2 … [because 1 m = 100 cm]

x = 360000cm^2/1 cm^2

x = 360000

56. 10 cm^2 = m^2.

Solution:-

10 cm^2 = 0.001 m^2.

We know that, 1 m = 100 cm

1 m^2 = 10000 cm^2

10 cm^2 = 10/10000

= 0.001 m^2

In Questions 57 to 72, state whether the statements are True or False.

57. In Fig. 9.26, perimeter of (ii) is greater than that of (i), but its area is smaller than that of (i).

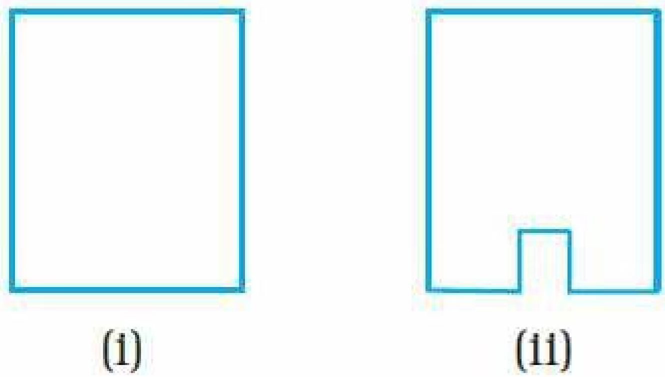


Fig. 9.26

Solution:-

True.

Perimeter of a closed figure is the distance around it while area is the measure of the part of plane or region enclosed by it.

Hence, perimeter of (ii) is greater than that of (i), but its area is smaller than that of (i).

58. In Fig. 9.27,

(a) area of (i) is the same as the area of (ii).

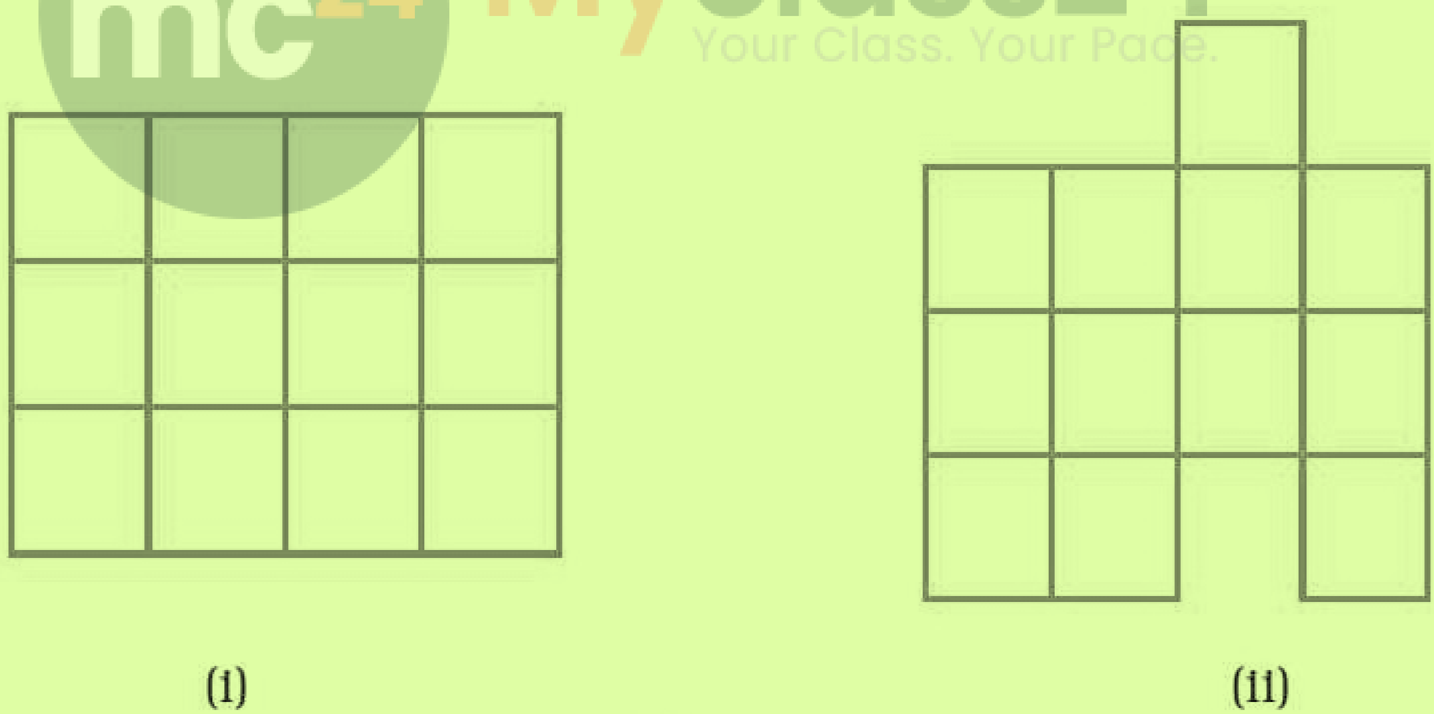


Fig. 9.27

Solution:-

True.

By observing the figure, we can say that area of both figures are same, because number of blocks used in both figures are same.

(b) Perimeter of (ii) is the same as (i).

Solution:-

False.

By observing the figures, we can say that there are 2 new sides added in figure (ii).

Therefore, the perimeter of (ii) is not same as (i).

(c) If (ii) is divided into squares of unit length, then its area is 13 unit squares.

Solution:-

False.

We know that, area of square = side × side

Then area of 1 square = 1 × 1

= 1 unit squares

There are 12 squares in figure (ii).

Therefore, area of figure (ii) = 12 × 1 = 12 unit squares

(d) Perimeter of (ii) is 18 units.

Solution:-

True.

The perimeter refers to the total length of the sides or edges of a polygon.

59. If perimeter of two parallelograms are equal, then their areas are also equal.

Solution:-

False.

60. All congruent triangles are equal in area.

Solution:-

True.

We know that congruent triangles have equal sizes and shapes.

61. All parallelograms having equal areas have same perimeters.

Solution:-

False

Now answer Questions 62 to 65:

62. Observe all the four triangles FAB, EAB, DAB and CAB as shown in Fig. 9.28:

All triangles have the same base and the same altitude.

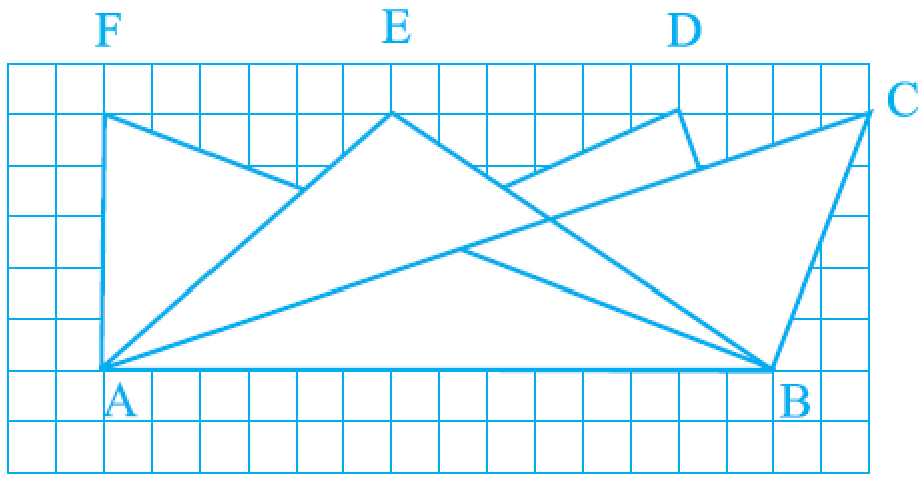


Fig. 9.28

Solution:-

True.

From the given figure, all triangles have the same base and the same altitude.

63. All triangles are congruent.
Solution:-False.

64. All triangles are equal in area.

Solution:-

True.

From the given figure, all triangles have the same base and the same altitude.

65. All triangles may not have the same perimeter.

Solution:-

True.

From the given figure, we can say that all triangles may not have the same perimeter.