

(c) Given figure:



(c)

From the figure, Base = 2.5 cm and height = 3.5 cm Area = 2.5×3.5 = 8.75 cm^2

(d) Given figure:



From the figure, Base = 5 cm and height = 4.8 cm Area = 5×4.8 = 24 cm²

(e) Given figure:



(e)

From the figure, Base = 2 cm and height = 4.4 cm Area = 2×4.4 = 8.8 cm^2

Q.2 Find the area of each of the following triangles:





Q.3 Find the missing values:

S.No.	Base	Height	Area of the Parallelogram
a.	20 cm		246 cm ²
b.		15 cm	154.5 cm^2
c.		8.4 cm	48.72 cm^2
d.	15.6 cm		16.38 cm^2

Sol:

(a) Given: base = 20 cm and Area of the parallelogram = 246 cm² Since, Area of parallelogram = base \times height

246 = 20 x heightHeight = 246/20Height = 12.3 cmThus, Height of the parallelogram = 12.3 cm

(b) Given: Height = 15 cm and area of the parallelogram = 154.5 cm² Since, Area of parallelogram = base × height

 $154.5 = base \times 15$ Base = 154.5/15Base = 10.3 cm Thus, base of the parallelogram = 10.3 cm

(c) Given: Height = 8.4 cm and area of the parallelogram = 48.72 cm² Since, Area of parallelogram = base × height

 $48.72 = base \times 8.4$ Base = 48.72/8.4Base = 5.8 cm Thus, base of the parallelogram = 5.8 cm

(d) Given: base = 15.6 cm and Area of the parallelogram = 16.38 cm^2 Since, Area of parallelogram = base × height 16.38 = 15.6 x heightHeight = 16.38/15.6Height = 1.05 cm

Thus, Height of the parallelogram = 1.05 cm So, complete table:

S.No.	Base	Height	Area of the Parallelogram
a.	20 cm	12.3 cm	246 cm ²
b.	10.3 cm	15 cm	154.5 cm ²
c.	5.8 cm	8.4 cm	48.72 cm ²
d.	15.6 cm	1.05 cm	16.38 cm ²

Q.4 Find the missing values:

Base	Height	Area of Triangle
15 cm		87 cm ²
	31.4 mm	$1256\mathrm{mm}^2$
22 cm		$170.5 cm^2$

Sol:

(a) Given: Base = 15 cm and Area of triangle = 87 cm^2 Since, Area of triangle = $\frac{1}{2} \times \text{base} \times \text{height}$ $87 = \frac{1}{2} \times 15 \times \text{height}$ Height = $(87 \times 2)/15$ Height = 174/15Height = 11.6 cmThus, height of the triangle = 11.6 cm

(b) Given: Height = 31.4 mm and Area of triangle = 1256 mm^2 Since, Area of triangle = $1/2 \times \text{base} \times \text{height}$

 $1256 = \frac{1}{2} \times base \times 31.4$ Base = $(1256 \times 2)/31.4$ Base = 80 mm or 8 cm Thus, base of the triangle = 80 mm or 8 cm

(d) Given: Base = 22 cm and Area of triangle = 170.5 cm^2

Since, Area of triangle = $\frac{1}{2} \times base \times height$

 $170.5 = \frac{1}{2} \times 22 \times \text{height}$ Height = 170.5/11Height = 15.5 cm Thus, height of the triangle = 15.5 cm

So, complete table:

Base	Height	Area of Triangle
15 cm	11.6 cm	87 cm ²
80 mm	31.4 mm	1256 mm ²
22 cm	15.5 cm	170.5 cm ²

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Q.5 PQRS is a parallelogram (Fig). QM is the height from Q to SR and QN is the height from Q to PS. If SR = 12 cm and QM = 7.6 cm. Find:
(a) The area of the parallelogram PQRS
(b) QN, if PS = 8 cm
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Sol: Given: In a parallelogram, SR = 12 cm and QM = 7.6 cm (a) Area of parallelogram = Base x height = 12 x 7.6 $= 91.2 \text{ cm}^2$ (b) Since, PS = 8 cmSo, Area of parallelogram = Base x height $91.2 = PS \times QN$ $91.2 = 8 \times QN$ QN = 91.2/8= 11.4 cm 0.6 DL and BM are the heights on sides AB and AD respectively of parallelogram ABCD (Fig). If the area of the parallelogram is 1470 cm², AB = 35 cm and AD = 49 cm, find the length of BM and DL. D M *Sol:* Given: In a parallelogram ABCD, AB = 35 cm and AD = 49 cm and area = 1470 cm². Since, Area of the parallelogram = base \times height $1470 = AB \times DL$ 1470 = 35 x DLDL = 1470/35DL = 42 cmNow again, Area of the parallelogram = base × height 1470 = AD x BM 1470 = 49 x BM BM = 1470/49BM = 30 cmThus, the length of BM = 30 cm and DL = 42 cm. Q.7 \triangle ABC is right angled at A (Fig). AD is perpendicular to BC. If AB = 5 cm, BC = 13 cm and AC = 12 cm, Find the area of \triangle ABC. Also find the length of AD. А



Sol: In right angled triangle ABC, AB = 5 cm, BC = 13 cm and AC = 12 cm Since, Area of the $\triangle ABC = \frac{1}{2} \times base \times height$ $= \frac{1}{2} \times AB \times AC$ $= \frac{1}{2} \times 5 \times 12$ = 30 cm² Now again, Area of $\triangle ABC = \frac{1}{2} \times base \times height$ $30 = \frac{1}{2} \times AD \times BC$ $30 = \frac{1}{2} \times AD \times 13$ $AD = \frac{60}{13}$ AD = 4.6 cm Thus, Area of the $\triangle ABC$ is 30 cm² and AD = 4.6 cm.

Q.8 \triangle ABC is isosceles with AB = AC = 7.5 cm and BC = 9 cm (Fig). The height AD from A to BC, is 6 cm. Find the area of \triangle ABC. What will be the height from C to AB i.e., CE?



Sol: Given: In isosceles triangle ABC, AB = AC = 7.5 cm and BC = 9 cm and AD = 6 cm. Since, Area of $\triangle ABC = \frac{1}{2} \times base \times height$

 $= \frac{1}{2} \times BC \times AD$ $= \frac{1}{2} \times 9 \times 6$ $= 27 \text{ cm}^2$ Now again, Area of $\triangle ABC = \frac{1}{2} \times base \times beight$ $27 = \frac{1}{2} \times AB \times CE$ $27 = \frac{1}{2} \times 7.5 \times CE$ $(27 \times 2)/7.5 = CE$

$$CE = 7.2 \text{ cm}$$

Thus, the area of triangle ABC = 27 cm^2 and the height from C to AB i.e., CE = 7.2 cm^2