Practice Questions On Area Of Rhombu

Name: _____ Date: _____

Area of Rhombus Questions

Practice Test on Area of Rhombus

1. Diagonals 4 cm and 6 cm → Area = ?
   Answer: 12 cm²

2. Diagonals 16 cm and 9 cm → Area = ?
   Answer: 72 cm²

3. Base 8 m, height 5 m → Area = ?
   Answer: 40 m²

4. Area = 45 cm², d_1 = 9 cm → d_2 = ?
   Answer: 10 cm

5. Area = 56 m², base = 8 m → height = ?
   Answer: 7 m

6. Diagonals in ratio 2:3, area = 108 cm² → diagonals?
   Solution: $(2x)(3x)/2 = 108 \rightarrow x^2=36 \rightarrow x=6$
   d_1 = 12 cm, d_2 = 18 cm

7. Perimeter = 52 cm, height = 8 cm → area?
   Side = 52/4 = 13 cm; Area = 13 × 8 = 104 cm²

8. Area = 192 m², $d_2 = 2 \times d_1$ → find diagonals?

$(d_1 \times 2d_1)/2 = 192 \rightarrow d_1^2 = 192 \rightarrow d_1 = \sqrt{192} \approx 13.86$ m

$d_2 \approx 27.71$ m

9. Rhombus and rectangle have same area.

Rectangle: $15 \times 8 = 120$ cm²

Rhombus: $d_1 = 20$ cm, find d_2.

$(20 \times d_2)/2 = 120 \rightarrow d_2 = 12$ cm

10. A rhombus floor has area 2000 cm². If tiles cost ₹5 per cm², find total cost.

Cost = 2000×5 = ₹10,000

11. The area of a rhombus is 3 times that of a square with side 6 cm. Find the diagonals if they are in ratio 2:3.

Area of square = 36 cm²

Area of rhombus = $3 \times 36 = 108$ cm²

$(2x)(3x)/2 = 108 \rightarrow 3x^2 = 108 \rightarrow x^2 = 36 \rightarrow x = 6$

$d_1 = 12$ cm, $d_2 = 18$ cm

12. A rhombus has diagonals that are consecutive even numbers. If area = 120 cm², find them.

Let diagonals = $2n$ and $(2n+2)$

$[2n \times (2n+2)]/2 = 120$

$n(2n+2) = 120$

$2n^2 + 2n = 120$

$n^2 + n = 60$

$n^2 + n - 60 = 0$

$(n+9)(n-...$ try $n=6$: $36+6=42$ No

Try: $n=7$: $49+7=56$ No; $n=8$: $64+8=72$ No

Better: Try $d_1=10$, $d_2=12$: $(10\times12)/2=60$ No

$d_1=12$, $d_2=20$: $(12\times20)/2=120$

(But 12 and 20 are not consecutive even numbers)

$d_1=10$, $d_2=24$: $(10\times24)/2=120$

Re-check consecutive even: 10 and 12 → $(10\times12)/2=60$ No

Actual consecutive even solution:

Try $n(2n+2)=120$; $n^2+n=60$; solving: $n\approx7.3$

Closest answer: diagonals 10 and 24, or the question may intend consecutive multiples.

13. If the longer diagonal of a rhombus is 30 cm and is 3 times the shorter diagonal, find the area.

d_1 = 30 cm (longer)

d_2 = 30/3 = 10 cm (shorter)

Area = $(30 \times 10)/2 = 150$ cm²

14. Two rhombuses have diagonals (6,8) and (10,12). Find the ratio of their areas.

Area 1 = $(6\times8)/2 = 24$ cm²

Area 2 = $(10\times12)/2 = 60$ cm²

Ratio = 24:60 = 2:5

15. A rhombus has area 240 cm². Its height equals one diagonal. The other diagonal is 20 cm. Find both diagonals and the height.

Area using diagonals: $(d_1 \times 20)/2 = 240$

$d_1 = 24$ cm

Height = d_1 = 24 cm (given)

Verify using base×height:

Area = b × h

$b \times 24 = 240 \rightarrow b = 10$ cm

Answers: $d_1 = 24$ cm, $d_2 = 20$ cm, height = 24 cm