LESSON MAKER PRO

Shape Area Sprint

Use bases, heights, and diagonals to find area.

GRADE 7 · MA.7.GR.1.1

MA.7.GR.1.1 "Apply formulas to find the areas of trapezoids, parallelograms and rhombi."

NAME _____ DATE _____

AREA FORMULA TOOLS

For a parallelogram, use A = b*h, and for a trapezoid, use A = 1/2(b1 + b2)*h. For a rhombus, use A = b*h when you know its perpendicular height, or A = 1/2*d1*d2 when you know both diagonals. Use the perpendicular height, not a slanted side.

WORKED EXAMPLE

Find the area of a trapezoid with bases 11 units and 17 units and a height of 8 units.

1. A = 1/2(b1 + b2)*h
2. A = 1/2(11 + 17)*8
3. A = 1/2*28*8 = 112

Answer: 112 square units

PRACTICE 6 problems

1 Find the area of a parallelogram with a base of 12 cm and a perpendicular height of 5 cm.

ANSWER _____

2 Find the area of a trapezoid with bases of 6 m and 18 m and a height of 9 m.

ANSWER _____

3 Find the area of a rhombus with a base of 13 cm and a perpendicular height of 4 cm.

ANSWER _____

4 Find the area of a rhombus with diagonals of 10 inches and 14 inches.

ANSWER _____

5 Find the area of a trapezoid with bases of 9 yards and 15 yards and a height of 6 yards.

ANSWER _____

6 A parallelogram has an area of 84 in^2 and a base of 12 inches. Find its perpendicular height.

ANSWER _____

APPLY IT Show your work

1 A gaming club paints a trapezoid-shaped wall panel. Its bases are 20 feet and 32 feet, and its height is 15 feet. How many square feet will they paint?

WORK SPACE

ANSWER _____

2 The student council makes a rhombus-shaped sticker with diagonals of 18 cm and 24 cm. What is the area of the sticker?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A rhombus has diagonals of 18 cm and 20 cm. A parallelogram has the same area as the rhombus and has a base of 15 cm. Find the parallelogram's perpendicular height.

_____

_____

ANSWER KEY

Shape Area Sprint

GRADE 7 · MA.7.GR.1.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of a parallelogram with a base of 12 cm and a perpendicular height of 5 cm.	**60 cm^2**
2	Find the area of a trapezoid with bases of 6 m and 18 m and a height of 9 m.	**108 m^2**
3	Find the area of a rhombus with a base of 13 cm and a perpendicular height of 4 cm.	**52 cm^2**
4	Find the area of a rhombus with diagonals of 10 inches and 14 inches.	**70 in^2**
5	Find the area of a trapezoid with bases of 9 yards and 15 yards and a height of 6 yards.	**72 yd^2**
6	A parallelogram has an area of 84 in^2 and a base of 12 inches. Find its perpendicular height.	**7 inches**

PART 2 · APPLY IT

1. **390 ft^2** Use A = 1/2(b1 + b2)*h. 1/2(20 + 32)*15 = 390.
2. **216 cm^2** Use A = 1/2*d1*d2. 1/2*18*24 = 216.

CHALLENGE

12 cm

Accept square units written with ^2 or written out in words. For the last practice problem and the challenge, accept the height with the correct linear unit.