Name & Surname: _____ Class: _____ Date: _____

Triangles and Parallelograms

Base times height – then halve it for triangles!

About 50 minutes Level ★★★☆☆

How to find the area

Use the side you choose as the base and measure straight across from it.

- Parallelogram: area = **base** × **height**
- Triangle: area = $\frac{1}{2}$ × **base** × **height**
- The **height** must be **perpendicular** to the base, not the slanted side.
- Worked example: triangle with **base** 10 cm and **height** 6 cm: $\frac{1}{2} \times 10 \times 6 = 30$ cm²

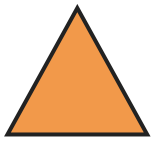
Task A

/5

Write the name of each shape. Tick the triangles and parallelograms.

1 

Name _____

2 

Name _____

3 

Name _____

4 

Name _____

5 

Name _____

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First area practice

Practise using base times height the right way.

Key words

base: the side you measure from

perpendicular: at a right angle to the base

parallelogram: four-sided shape with opposite sides parallel

height: perpendicular distance from the base

area: space inside a shape

Task B

/10

Find each area. Remember to use the perpendicular height.

WARM UP

1. Find the **area** of a **parallelogram** with **base** 8 cm and height 5 cm.

   Answer: _____

2. Find the **area** of a **triangle** with **base** 10 cm and height 6 cm.

   Answer: _____

3. Find the **area** of a **parallelogram** with **base** 12 cm and height 7 cm.

   Answer: _____

4. Find the **area** of a **triangle** with **base** 9 cm and height 4 cm.

   Answer: _____

PRACTISE

5. A **triangle** has **base** 14 cm and height 10 cm. Find its **area**.

   Answer: _____

6. A **parallelogram** has **area** 56 cm² and **base** 7 cm. Find its height.

   Answer: _____

7. A **triangle** has **area** 60 cm² and **base** 15 cm. Find its height.

   Answer: _____

PROBLEM SOLVING

8. A triangular sign has **base** 20 cm and **height** 12 cm. Find its **area**.

   Answer: _____

9. A **parallelogram** mat has **base** 9 m and height 6 m. Find its **area**.

   Answer: _____

10. Explain how you know a **triangle** is half a **parallelogram** with the same base and height.

    Answer: _____

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Find the mistakes

Spot the wrong step and fix the area.

Task C

/6

Find the wrong step in each working. Say why and give the right area.



Student A

Work out the **area** of a **triangle** with base 10 cm, perpendicular height 6 cm and slanted side 7 cm.

1. Area = $\frac{1}{2}$ × base × height
2. = $\frac{1}{2}$ × 10 × 7
3. = 35 cm²

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____



Student B

Work out the **area** of a **parallelogram** with base 8 cm and height 5 cm.

1. Area = base × height
2. = 8 + 5
3. = 13 cm²

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____



Student C

Work out the **area** of a **triangle** with base 12 cm and height 4 cm.

1. Area = $\frac{1}{2}$ × base × height
2. = 12 × 4
3. = 48 cm²

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____

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Tricky area problems

Find missing sides and solve word problems.

Task D

/10

Use the area rules to find missing sides and solve problems.

WARM UP

1 Find the **area** of a **parallelogram** with **base** 5 cm and height 9 cm.

Answer: _____

2 Find the **area** of a **triangle** with **base** 8 cm and height 7 cm.

Answer: _____

3 Find the **area** of a **parallelogram** with **base** 11 cm and height 3 cm.

Answer: _____

PRACTISE

4 A **triangle** has **base** 20 cm and height 11 cm. Find its **area**.

Answer: _____

5 A **parallelogram** has **area** 72 cm² and height 8 cm. Find its **base**.

Answer: _____

6 A **triangle** has **area** 48 cm² and height 8 cm. Find its **base**.

Answer: _____

7 Find the **area** of a **parallelogram** with **base** 15 cm and height 6 cm.

Answer: _____

PROBLEM SOLVING

8 A triangular kite has **base** 40 cm and **height** 30 cm. Find its **area**.

Answer: _____

9 A **parallelogram** logo has **area** 20 cm² and height 4 cm. Find its **base**.

Answer: _____

10 Two **parallelograms** have the same **base** and stand between the same parallels. Explain what you know about their areas.

Answer: _____

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Measure and order

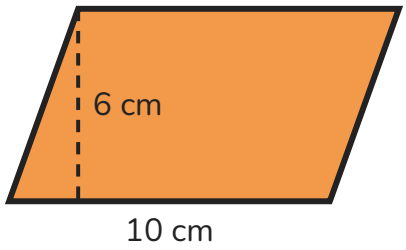
Calculate the areas, then put the steps in order.

Task E

/4

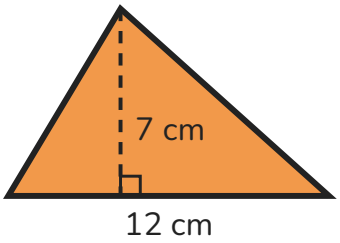
Find the area of each shape. Use the perpendicular height.

1



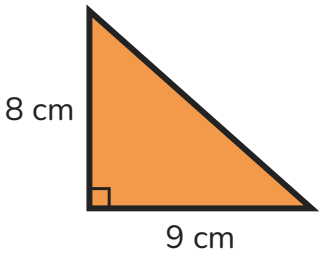
Area: _____ cm²

2



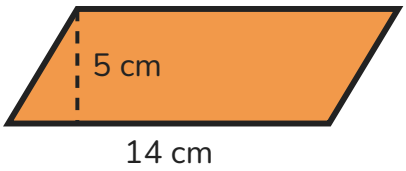
Area: _____ cm²

3



Area: _____ cm²

4



Area: _____ cm²

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Triangles and Parallelograms

Task F

Example done for you

/3

Put the area steps for a triangle in the right order.

	Measure the **perpendicular height** to that base.
1	Pick a side to be the **base**.
	Halve the answer for a **triangle**.
	Multiply **base** × height.

How did I do?

Circle a face for each line.

I can calculate the area of a parallelogram.	☹	😐	☺
I can calculate the area of a triangle.	☹	😐	☺
I can use the perpendicular height correctly.	☹	😐	☺

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Answer sheet: Triangles and Parallelograms

Task A

1. parallelogram: 4 sides, 4 corners
2. triangle: 3 sides, 3 corners
3. rectangle: 4 sides, 4 corners
4. rhombus: 4 sides, 4 corners
5. trapezium: 4 sides, 4 corners

Task B

1. 40 cm²
2. 30 cm²
3. 84 cm²
4. 18 cm²
5. 70 cm²
6. 8 cm
7. 8 cm
8. 120 cm²
9. 54 m²
10. A triangle is half the area because two copies make a parallelogram with the same base and height.

Task C

1. Step 2 is wrong: They used the slanted side. The height must be perpendicular, so use 6 cm. Correct answer: 30 cm²
2. Step 2 is wrong: They added instead of multiplying. Area of a parallelogram is base × height. Correct answer: 40 cm²
3. Step 2 is wrong: They forgot to halve. A triangle needs $\frac{1}{2}$ × base × height. Correct answer: 24 cm²

Task D

1. 45 cm²
2. 28 cm²
3. 33 cm²
4. 110 cm²
5. 9 cm
6. 12 cm
7. 90 cm²
8. 600 cm²
9. 5 cm
10. Their areas are equal because they have the same base and the same perpendicular height.

Task E

1. area = 60 cm²
2. area = 42 cm²
3. area = 36 cm²
4. area = 70 cm²

Task F

1. Pick a side to be the base. 2. Measure the perpendicular height to that base. 3. Multiply base × height. 4. Halve the answer for a triangle.

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