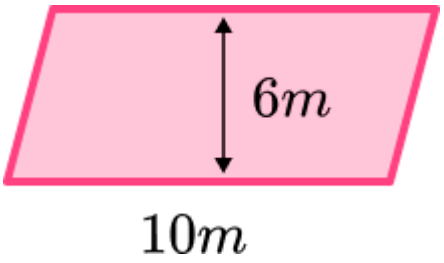
Area of a Parallelogram - Worksheet

Skill

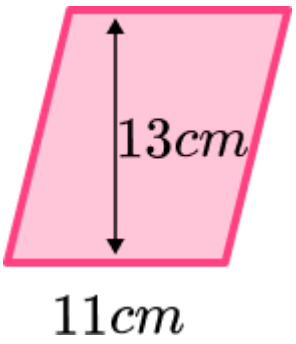
Group A - Area of Parallelograms

Calculate the areas of the parallelograms below.

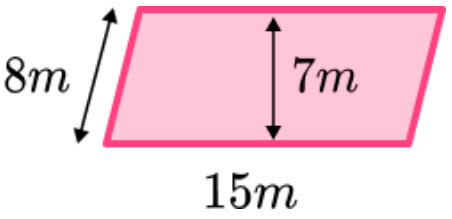
1)



2)



3)



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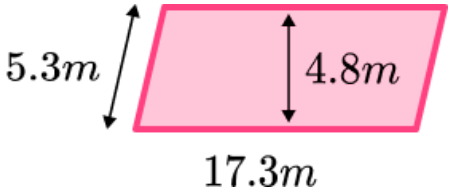

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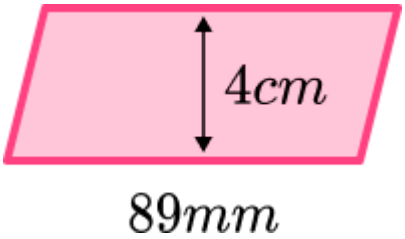
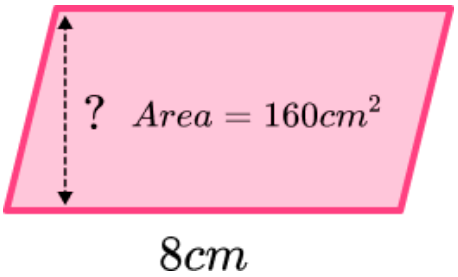


6)

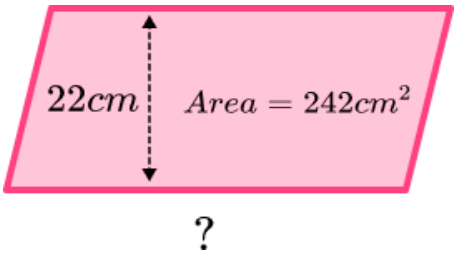
Group B - Missing Side Lengths

Calculate the missing side lengths in the parallelograms below.

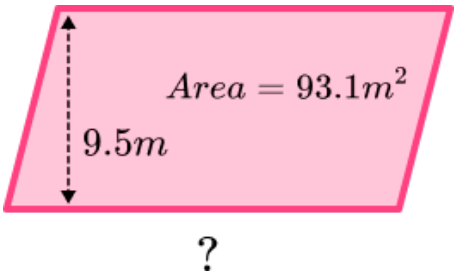
1)



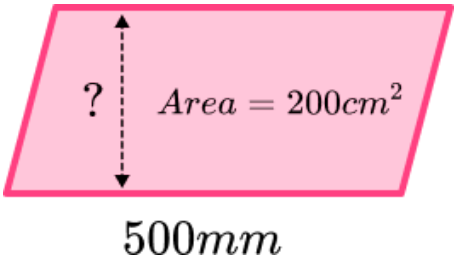
2)



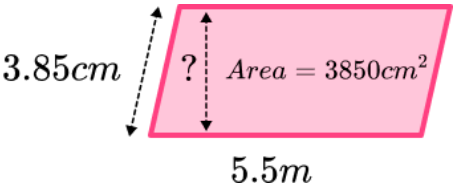
3)



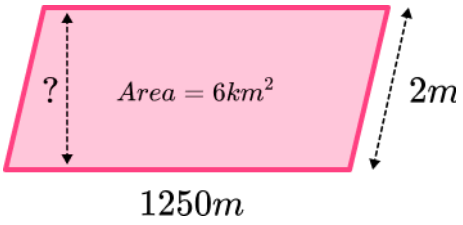
4)



5)



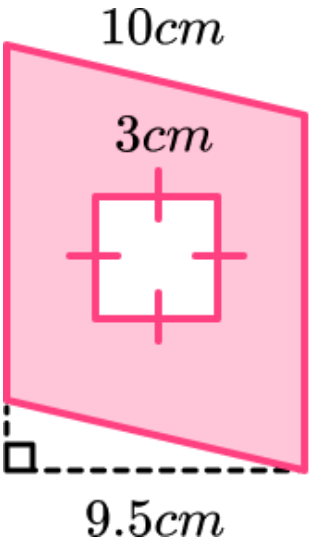
6)



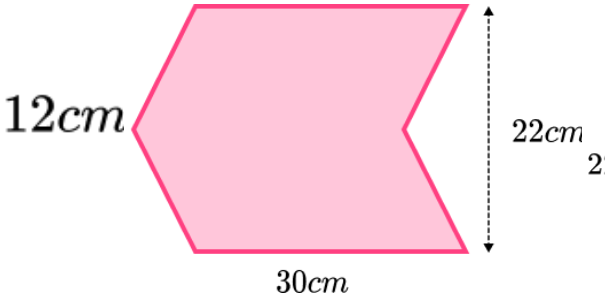
Group C - Compound Shapes

Calculate the area of the shaded regions below:

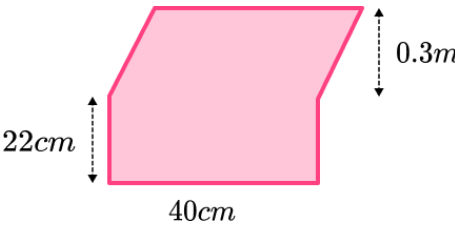
1)



2)



3)



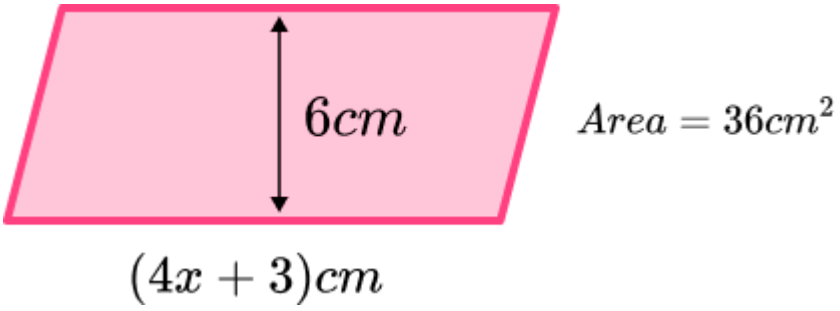
Area of a Parallelogram - Worksheet

Applied

1) **(a)** Draw 4 different parallelograms with an area of $48cm^2$

(b) Draw 4 different parallelograms with an area of $6m^2$. Hint: You can use decimals.

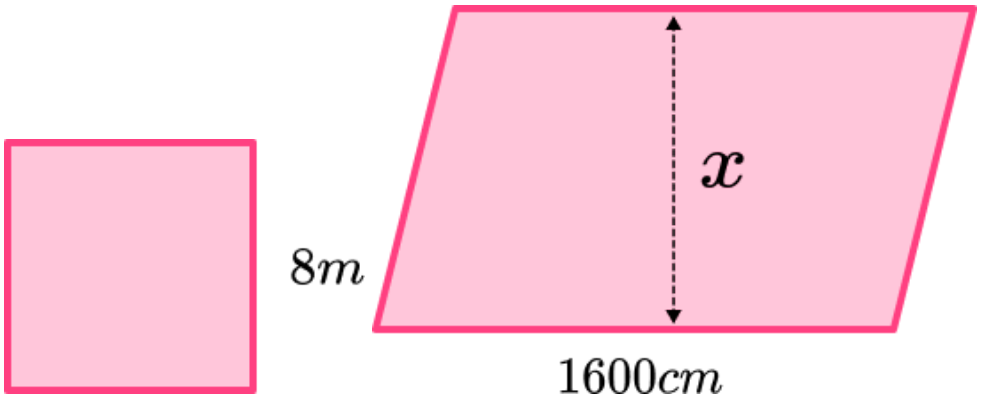
2) **(a)** Using the diagram below, work out the value of x.



3) **(a)** Mrs. Brown is tiling her bathroom wall. Her bathroom is situated in the attic with sloping ceilings making the shape of the wall a parallelogram. The length of her wall is $9.5m$ and the perpendicular height is $4m$. Each square tile she wants to buy is $25cm$ long. How many tiles will she need to tile her entire bathroom wall?

(b) If each tile costs £4.50 how much will it cost to tile her entire kitchen?

4) **(a)** The square and the parallelogram below have the same area. Work out the value of x.



Area of a Parallelogram - Exam Questions

1) **(a)** Find the area of the parallelogram. Remember to show your full working.

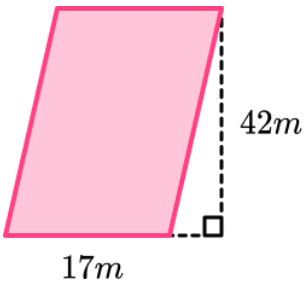


Diagram not drawn to scale

.....
(2)

(b) What is the area of the shape in square centimetres?

.....
(2)
(4 marks)

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2) **(a)** A landscaper is planning a garden shaped as a parallelogram for a client. The client would like a wooden patio in the middle and a triangular shaped sandpit. The rest of the garden will be covered in grass. What is the area of the grass?

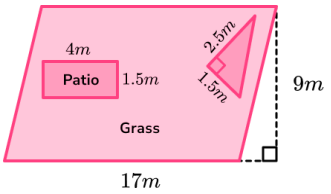

Diagram not drawn to scale

.....
(3)

(b) An individual roll of grass covers 4 square metres and costs £12. 50. How much will it cost to cover the garden?

.....
(2)
(5 marks)

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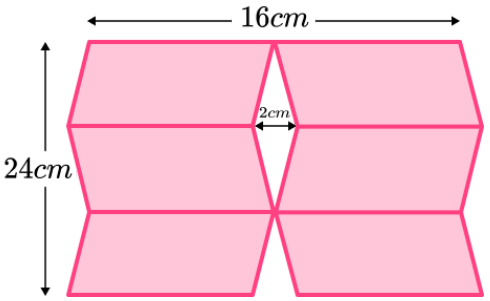
3) A pattern is made with 6 congruent parallelograms. Find the area of the shaded region.



.....

(2 marks)

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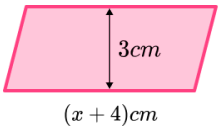
4) Calculate the value of x in the diagram on the right.



$Area = 24cm^2$

Diagram not drawn to scale

.....

(3 marks)

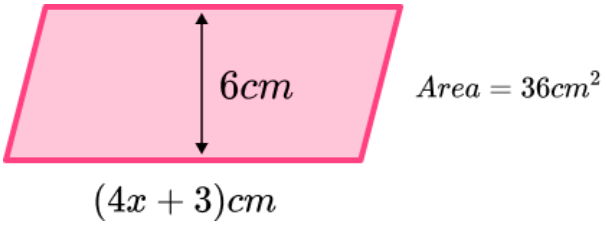
Area of a Parallelogram - Answers

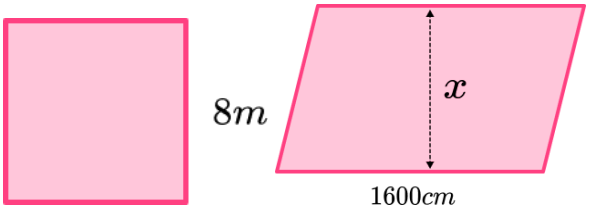
	Question	Answer
Group A	Skill Questions	
	Calculate the areas of the parallelograms below. Remember to show your workings. *Please refer to the worksheet for diagrams.*	**1)** $60m^2$ **2)** $143cm^2$ **3)** $105m^2$ **4)** $83.04m^2$ **5)** $35.6cm^2$ **6)** $43.05km^2$
Group B	Calculate the missing side lengths below. Remember to show your workings. *Please refer to the worksheet for diagrams.*	**1)** $x = 20cm$ **2)** $11cm$ **3)** $9.8m$ **4)** $4cm$ **5)** $7cm$ **6)** $4.8km$

Area of a Parallelogram - Answers

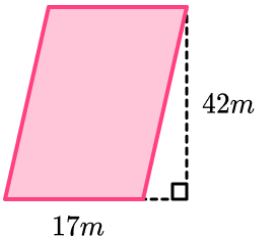
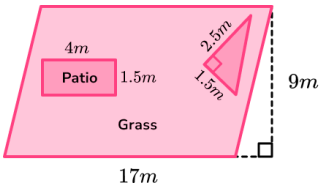
	Question	Answer
Group C	Skill Questions	
	Calculate the areas of the compound shapes below. Remember to show your workings. *Please refer to the worksheet for diagrams.*	**1)** $105cm^2$ **2)** $660cm^2$ **3)** $2080cm^2$

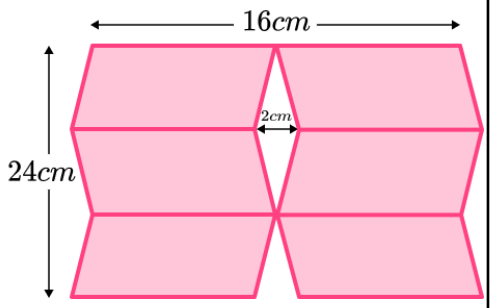
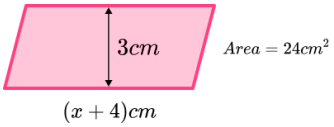
Area of a Parallelogram - Answers

	Question	Answer
	Applied Questions	
1)	**a)** Draw 4 different parallelograms with an area of $48cm^2$ **b)** Draw 4 different parallelograms with an area of $6m^2$. Hint: You can use decimals.	**a)** Answers may vary $6cm$ by $8cm$, $12cm$ by $4cm$, $48 \times 1cm$, $2cm$ by $24cm$ **b)** $3m$ by $2m$, $6m$ by $1m$, $4m$ by $1.5m$, $5m$ by $1.2m$
2)	**a)** Using the diagram below, work out the value of x. 	**a)** $x = 0.75$
3)	**a)** Mrs. Brown is tiling her bathroom wall. Her bathroom is situated in the attic with sloping ceilings making the shape of the wall a parallelogram. The length of her wall is $9.5m$ and the perpendicular height is $4m$. Each square tile she wants to buy is $25cm$ long. How many tiles will she need to tile her entire bathroom wall? **b)** If each tile costs £4.50 how much will it cost to tile her entire kitchen?	**a)** 608 tiles **b)** £2736

4)	The square and the parallelogram below have the same area. Work out the value of x.  	$4m$

Area of a Parallelogram - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Find the area of the parallelogram. Remember to show your full working.  Diagram not drawn to scale	(a) 42×17 **(1)** $714m^2$ **(1)**	**(2)**
(b)	What is the area of the shape in square centimeters?	(b) $17 \times 42 \times 10000$ **(1)** $7,140,000cm^2$ **(1)**	**(2)**
2) (a)	A landscaper is planning a garden shaped as a parallelogram for a client. The client would like a wooden patio in the middle and a triangular shaped sandpit. The rest of the garden will be covered in grass. What is the area of the grass?  Diagram not drawn to scale	(a) $17 \times 9 = 153$ **(1)** $4 \times 1.5 = 6$ or $1/2 \times 2.5 \times 1.5 = 1.875$ **(1)** $153 - 6 - 1.875 = 145.125m^2$ **(1)**	**(3)**
(b)	An individual roll of grass covers 4 square metres and costs £12.50. How much will it cost to carpet the garden?	(b) $145.125 \div 4 = 36.28125$ **(1)** $37\ rolls \times 12.50 = £462.50$ **(1)**	**(2)**

3) (a)	A pattern is made with 6 congruent parallelograms. Find the area of the shaded region.  	**(a)** 16×24 **(1)** $384cm^2$ (cao) **(1)**	**(2)**
4) (a)	Calculate the value of x in the diagram on the right.  Diagram not drawn to scale	**(a)** $3(x + 4) = 24$ $3x + 12 = 24$ **(1)** $3x = 12$ **(1)** $x = 4$ **(1)**	**(3)**