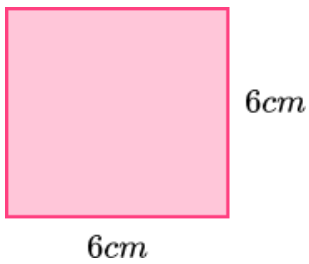# Area of a Quadrilateral - Worksheet

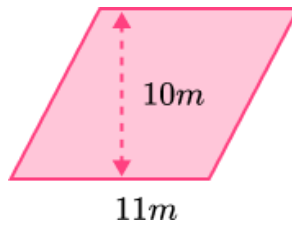## Skill

Group A - Calculating areas

Find the area of the following shapes:
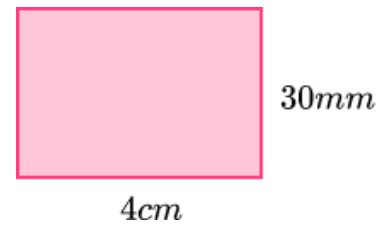
1)

6cm
6cm

2)

10m
11m

3)
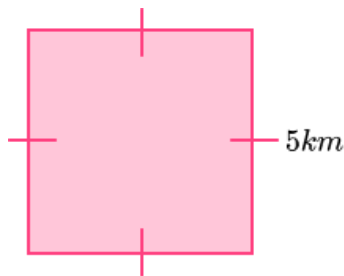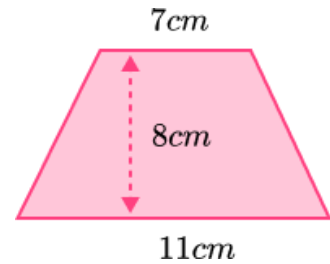
30mm
4cm

4)

9cm
12cm
13cm

5)

5km

6)

7cm
8cm
11cm

7)

16m
10m
5m

8)

6cm
50mm
7cm

9)

15mm
9mm
13mm
14.5mm
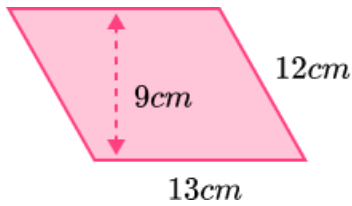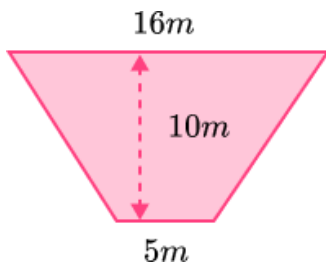
Area of a Quadrilateral - Worksheet

Group B - Compound shapes

Find the shaded area of the following shapes:

1)

7cm
3cm
2cm

2)

1.5mm
4mm
6.5mm
3mm

3)

3cm
11cm
8cm
6cm

4)

4m
6m
7m
18m
10m

5)

500cm
5m
6m
10m
400cm
20m

6)

3m
3m
2m
4m
4m
3m
5m

7)

4m
11m
6m
10m

8)

7mm
10mm
13mm

9)

14km
30km
18km
4km

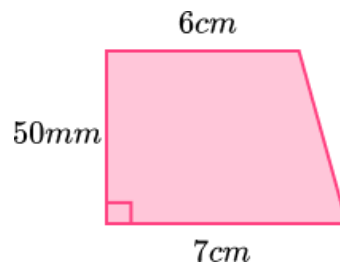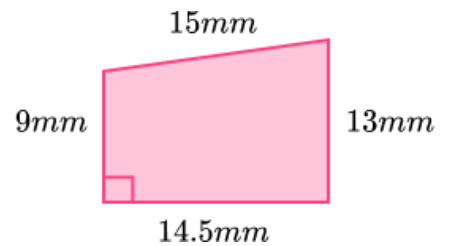**thirdspacelearning.com**   Helping schools close the maths attainment gap through targeted one to one teaching and flexible resources

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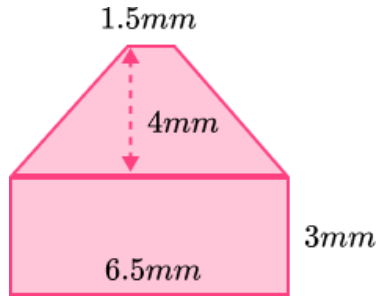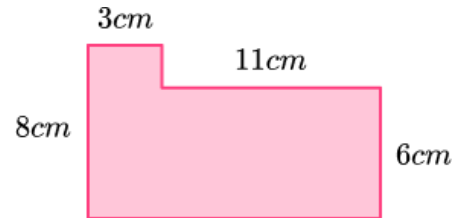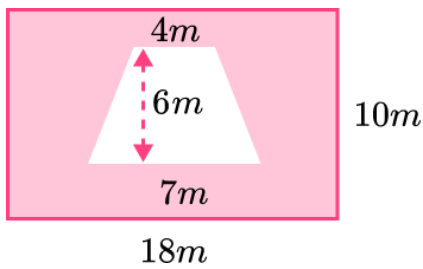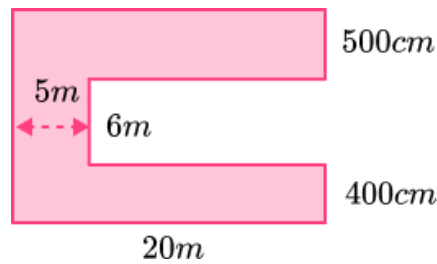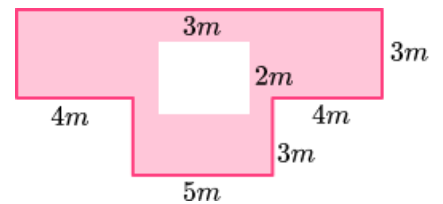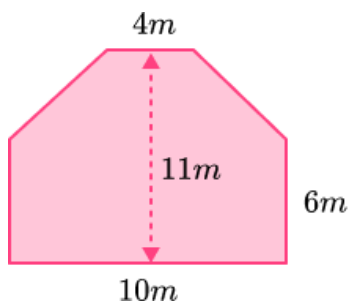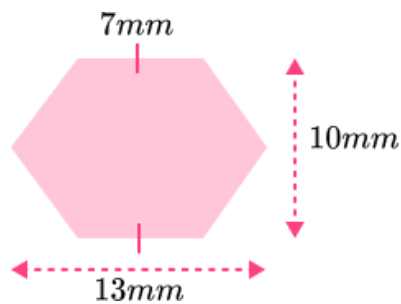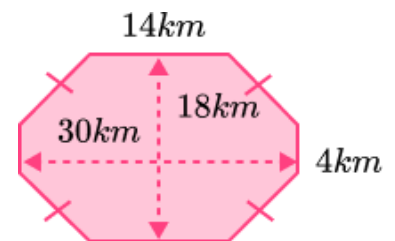
Area of a Quadrilateral - Worksheet

Group C - Find the lengths

Find the length of the side labelled x:

1)

$Area = 50cm^2$ 5cm

x

2)

$Area = 63cm^2$

7mm

x

3)

7cm

x

$Area = 120cm^2$

13 cm

4)

16m

10m $Area = 140m^2$

x

5)

$Area = 36cm^2$ x

6)

$Area = 216m^2$

18m

x

7)

4cm

x 10cm

$Area = 106cm^2$ 7cm

8)

5mm

9mm

$Area = 108mm^2$ 4mm

x

9)

12cm

5cm $Area = 111cm^2$

10cm x

3cm

15cm
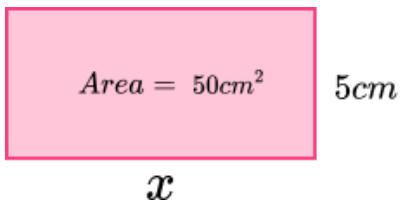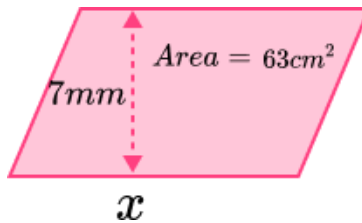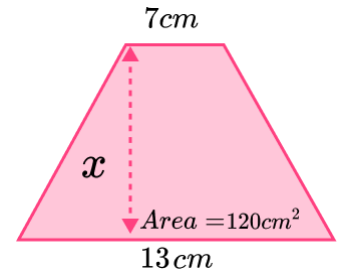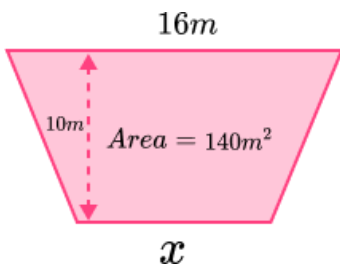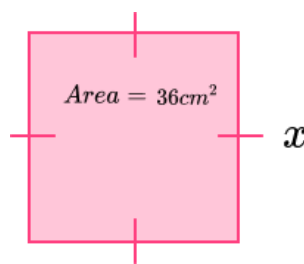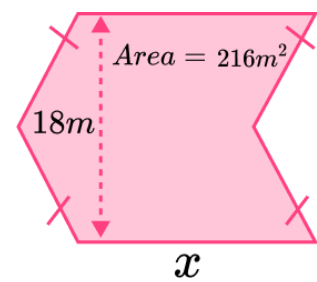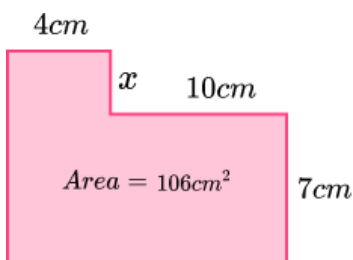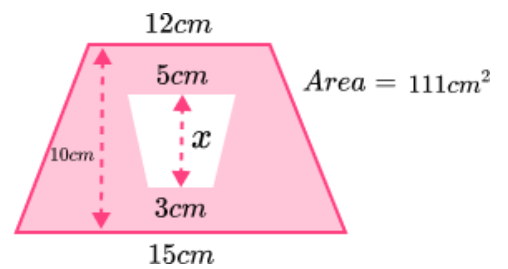
Area of a Quadrilateral - Worksheet

Applied

1) Ben wants to paint his wall. The dimensions of Ben's wall are shown in the diagram below. Each tin of paint will cover $12m^2$. The wall will require 2 coats of paint. How many tins of paint does Ben need to buy?

2.3m   2.7m

6m

2) A floor measuring $6m \times 8m$ is to be covered by tiles measuring $50cm \times 40cm$ each. There is a fireplace in the room, as shown in the diagram below, which does not need to be tiled. Sheila has 200 tiles. Does Sheila have enough tiles to cover the floor?

4m

1.5m

6m

8m

3) This rectangle has an area of $24 \ cm^2$. Write down the length and width of two other possible rectangles with an area of $24 \ cm^2$. All answers must be integers.

12cm

2cm

4) The area of the trapezium is twice the area of the parallelogram. Calculate the height of the trapezium.

13cm

8cm

10cm   19cm

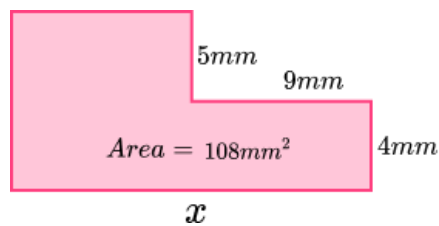**thirdspacelearning.com**   Helping schools close the maths attainment gap through targeted one to one teaching and flexible resources

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Area of a Quadrilateral - Exam Questions

1)   **(a)**   Ann's patio is $4m$ long by $3.5m$ wide. Calculate the area of the patio.

....
(1)

(b)   Patio slabs are $40cm \times 70cm$. They come in packs of 8. Each pack costs £22.50. How much will it cost Ann to buy enough new slabs to cover her patio?

....
(4)
(5 marks)

---

2)   **(a)**   Daniel is going to put some sheep in a field. Each sheep requires $40m^2$ for grazing. How many sheep can Daniel have in his field?
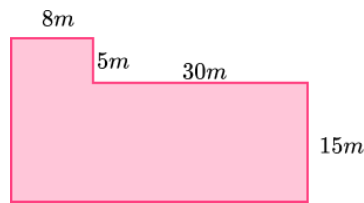
....
(2)

(b)   Goats require $35 \, m^2$ for grazing. How many more goats than sheep could Daniel keep in the same field?
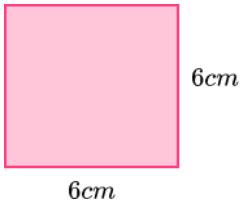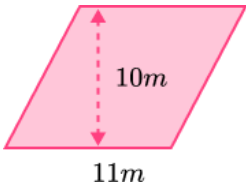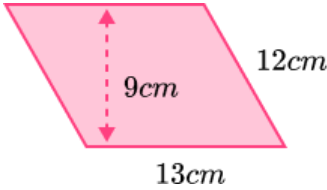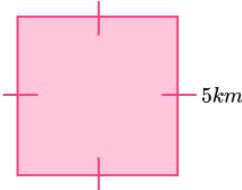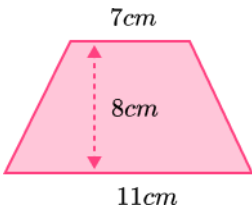
....
(2)
(4 marks)

---

3)   The pattern below is made from 9 identical rectangles. Find the total area of the pattern.

....
(4 marks)

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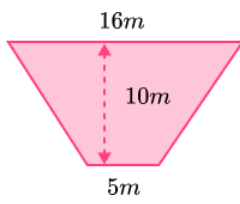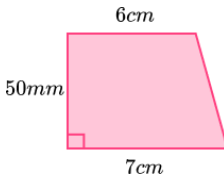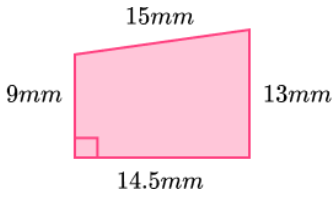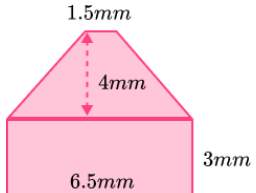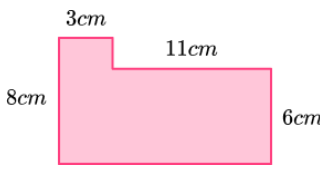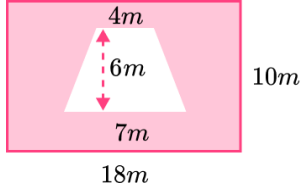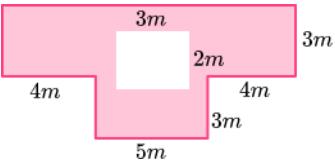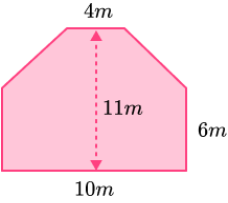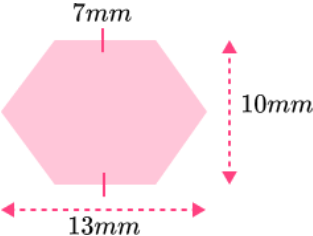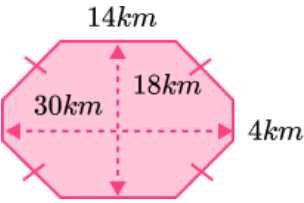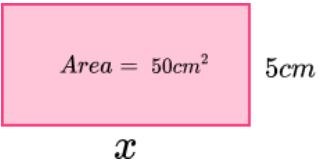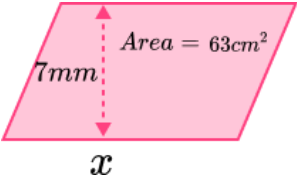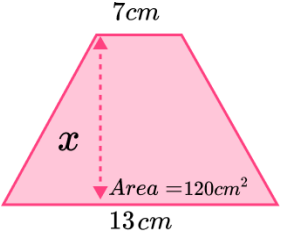
Area of a Quadrilateral - Answers

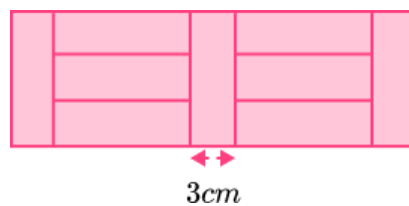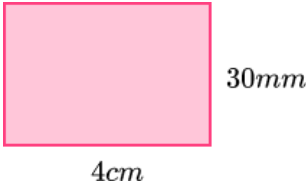|	Question	Answer
	Skill Questions	
Group A	Find the area of the following shapes: **1)** 6cm / 6cm **2)** 10m / 11m **3)** 30mm / 4cm **4)** 12cm / 9cm / 13cm **5)** 5km **6)** 7cm / 8cm / 11cm	**1)** $36 \ cm^2$ **2)** $110 \ m^2$ **3)** $12 \ cm^2 \ / \ 1200 \ mm^2$ **4)** $117 \ cm^2$ **5)** $25 \ km^2$ **6)** $72 \ cm^2$

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Area of a Quadrilateral - Answers

Group A contd	7)	7) $105 \ m^2$
	8)	8) $32.5 \ cm^2 \ / \ 3250mm^2$
	9)	9) $159.5 \ mm^2$
Group B	Find the shaded area of the following shapes:	
	1)	1) $35 \ cm^2$
	2)	2) $35.5 \ mm^2$
	3)	3) $90 \ cm^2$
	4)	4) $147 \ m^2$
	5)	5) $210 \ m^2$

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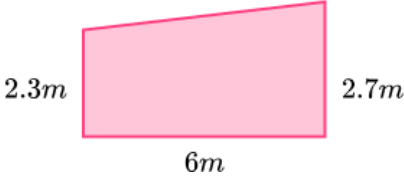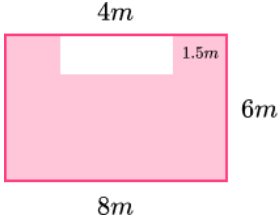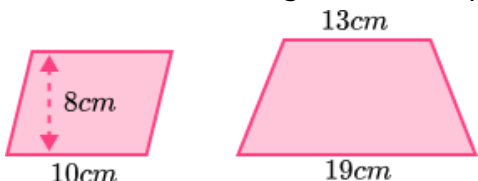
Area of a Quadrilateral - Answers

Group B contd	6)	6) $48\ m^2$
	7)	7) $95\ m^2$
	8)	8) $100\ mm^2$
	9)	9) $428\ km^2$
Group C	Find the length of the side labelled x:	
	1)	1) $10\ cm$
	2)	2) $90\ cm$
	3)	3) $12\ cm$

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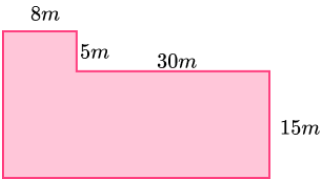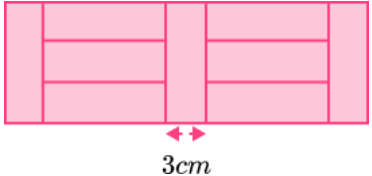
Area of a Quadrilateral - Answers

Group C contd		
4) 16m, 10m, Area = 140m², x		**4)** 12 m
5) Area = 36cm², x		**5)** 6 cm
6) Area = 216m², 18m, x		**6)** 12 m
7) 4cm, x, 10cm, Area = 106cm², 7cm		**7)** 2 cm
8) 5mm, 9mm, Area = 108mm², 4mm, x		**8)** 17 mm
9) 12cm, 5cm, Area = 111cm², x, 10cm, 3cm, 15cm		**9)** 6 cm

Area of a Quadrilateral - Answers

	Question	Answer
	Applied Questions	
1)	Ben wants to paint his wall. The dimensions of Ben's wall are shown in the diagram below. Each tin of paint will cover $12 \, m^2$. The wall will require 2 coats of paint. How many tins of paint does Ben need to buy? 2.3m 2.7m 6m	3 tins
2)	A floor measuring $6 \, m \times 8 \, m$ is to be covered by tiles measuring $50 \, cm \times 40 \, cm$ each. There is a fireplace in the room, as shown in the diagram below, which does not need to be tiled. Sheila has 200 tiles. Does Sheila have enough tiles to cover the floor? 4m 1.5m 6m 8m	No
3)	This rectangle has an area of $24 \, cm^2$. Write down the length and width of two other possible rectangles with an area of $24 \, cm^2$. All answers must be integers. 12cm 2cm	Any two of: 1×24 3×8 4×6
4)	The area of the trapezium is twice the area of the parallelogram. Calculate the height of the trapezium. 8cm 10cm 13cm 19cm	$10 \, cm$

Area of a Quadrilateral - Mark Scheme

		Question	Answer	
		Exam Questions		
1)	**(a)**	Ann's patio is $4m$ long by $3.5\,m$ wide. Calculate the area of the patio.	**(a)** $4 \times 3.5 = 14\,m^2$	**(1)**
	(b)	Patio slabs are $40\,cm \times 70\,cm$. They come in packs of 8. Each pack costs £22.50. How much will it cost Ann to buy enough new slabs to cover her patio?	**(b)** Area of each tile: $0.4 \times 0.7 = 0.28\,m^2$ Number of tiles: $14 \div 0.28 = 50$ Number of packs: $50 \div 8 = 6.25$ (7 packs) Total cost: $7 \times £22.50 = £157.50$	**(1)** **(1)** **(1)** **(1)**
2)	**(a)**	Daniel is going to put some sheep in a field. Each sheep requires $40\,m^2$ for grazing. How many sheep can Daniel have in his field? 	**(a)** $8 \times 5 = 40$ $38 \times 15 = 570$ $570 + 40 = 610\,m^2$ **or** $8 \times 20 = 160$ $30 \times 15 = 450$ $160 + 450 = 610\,m^2$ **or** $610 \div 40 = 15.25$ He can have 15 sheep.	 **(1)** **(1)** **(1)** **(1)** **(1)** **(1)**
	(b)	Goats require $35\,m^2$ for grazing. How many more goats than sheep could Daniel keep in the same field?	**(b)** $610 \div 35 = 17...$ $17 - 15 = 2$	**(1)** **(1)**
3)		The pattern below is made from 9 identical rectangles. Find the total area of the pattern. $3cm$	Height of one tile: $3 \times 3 = 9\,cm$ Area of each tile: $3 \times 9 = 27\,cm^2$ Total area: $9 \times 27 = 243$ cm^2	**(1)** **(1)** **(1)** **(1)**