Similar Shapes - Worksheet
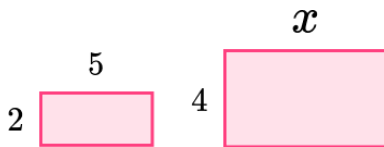
Skill

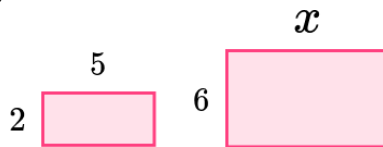**Group A - Finding a missing length in a larger shape**

These rectangles are similar. All lengths are in cm. Diagrams are **NOT** drawn to scale.

Find the value of x:

1)

2)

3)

4)

5)

6)

Group B - Finding a missing length in a smaller shape

These rectangles are similar. All lengths are in cm. Diagrams are **NOT** drawn to scale.
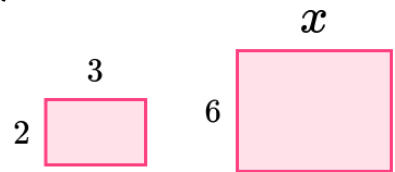
Find the value of x:
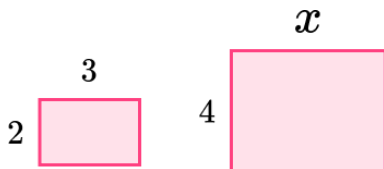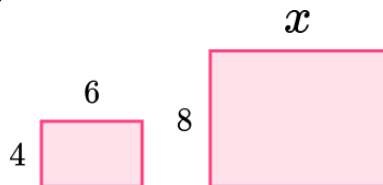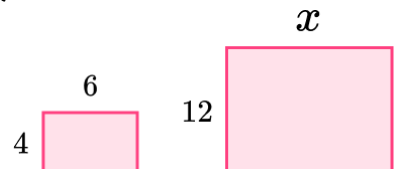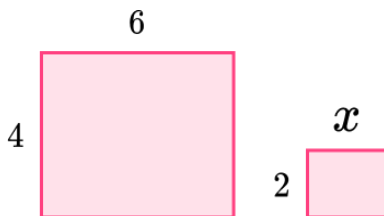
1)

2)

3)

4)
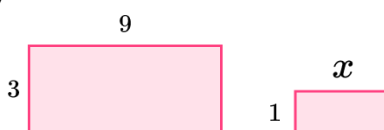
5)
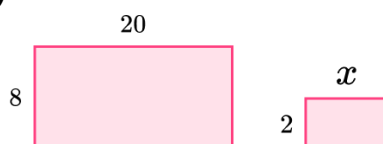
6)

Similar Shapes - Worksheet
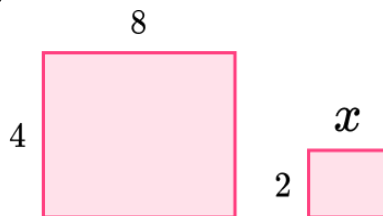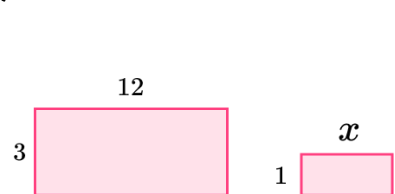
Group C - Finding a missing length

These rectangles are similar. All lengths are in cm. Diagrams are **NOT** drawn to scale.

Find the value of x:

1)

5

x

2

3

2)
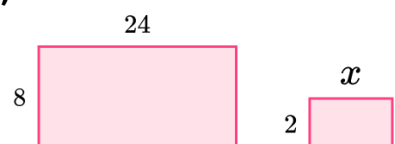
7

x

2

3

3)

7

x

4

5

4)

9

x

4

5

5)

8

x

5

4

6)

11

x

5

4

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2
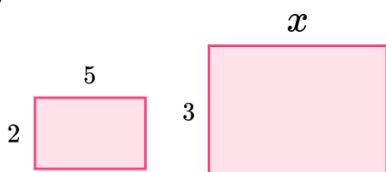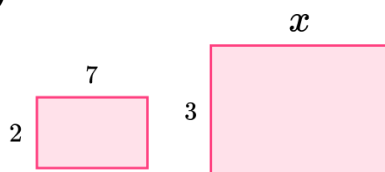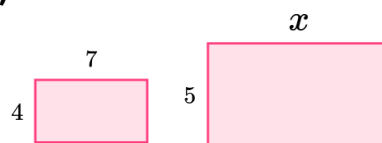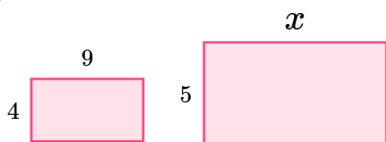
Similar Shapes - Worksheet

Applied

1) **(a)** These triangles are similar. Find the value of x.
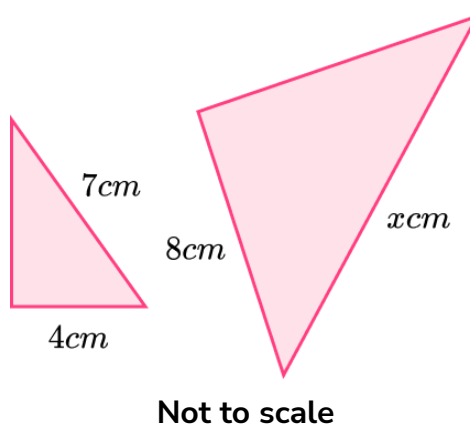
7cm

8cm

4cm

xcm

Not to scale

(b) These triangles are similar. Find the value of x.

8cm

9cm

3cm

xcm

Not to scale

2) **(a)** All lengths are in cm. Find the value of x.

4

5

x

8
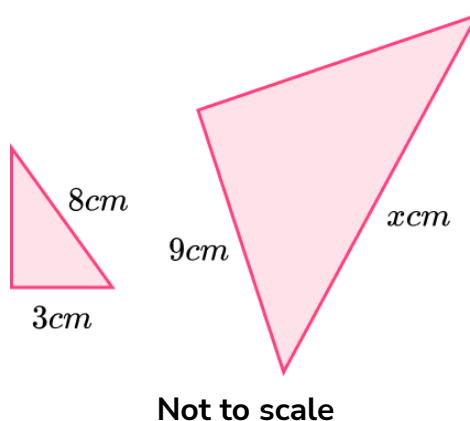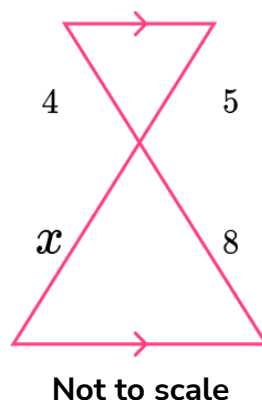
Not to scale

Similar Shapes - Worksheet

(b) Find the value of x. All lengths are in cm.
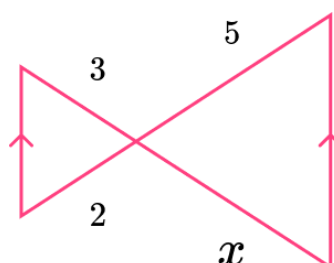
5
3
2
x
Not to scale

3) **(a)** Find the value of x. All lengths are in cm.
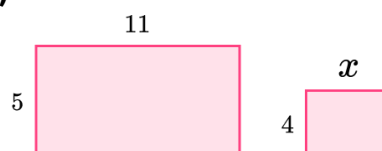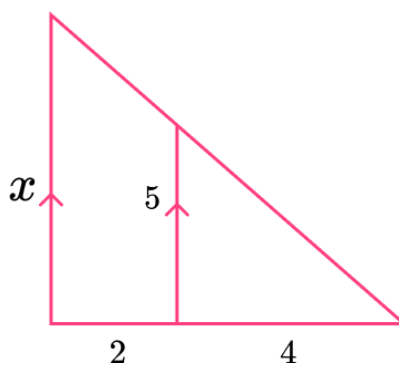
x
5
2
4
Not to scale

(b) Find the value of x. All lengths are in cm.

5
x
3
14
Not to scale

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4
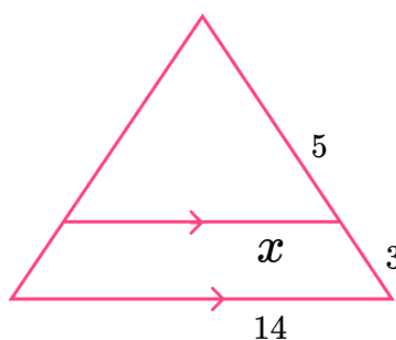
Similar Shapes - Worksheet

4) **(a)** These two shapes are similar. The area of shape A is $25cm^2$. What is the area of shape B?
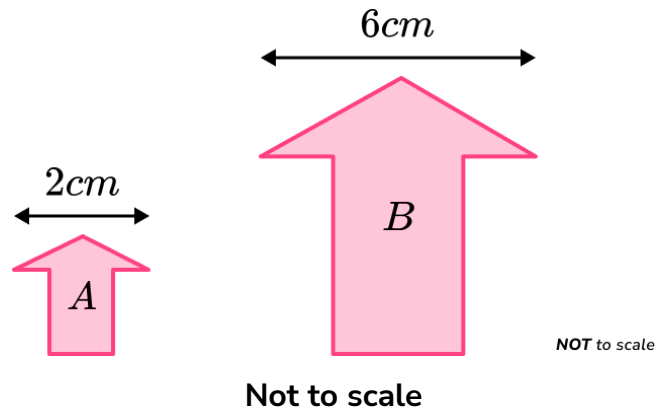
$6cm$

$2cm$

B

A

NOT to scale

Not to scale

(b) These two triangular prisms are similar. The volume of shape A is $100cm^3$. What is the volume of shape B?

A

B

$3cm$

$6cm$

Not to scale

Similar Shapes - Exam Questions

1)   Which shape is similar to shape *X*?
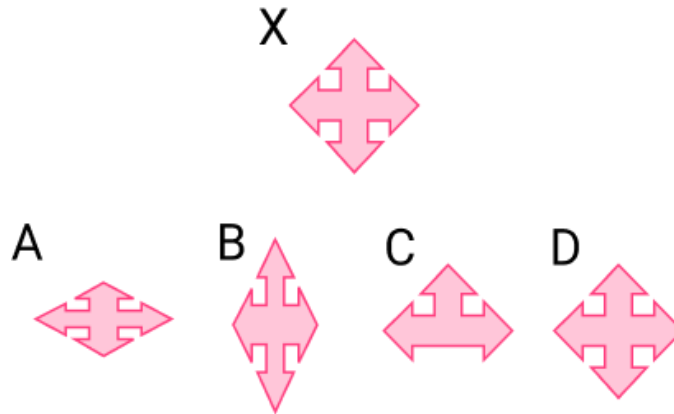
....
(1 mark)

2)   Triangles *ABC* and *DEF* are similar.
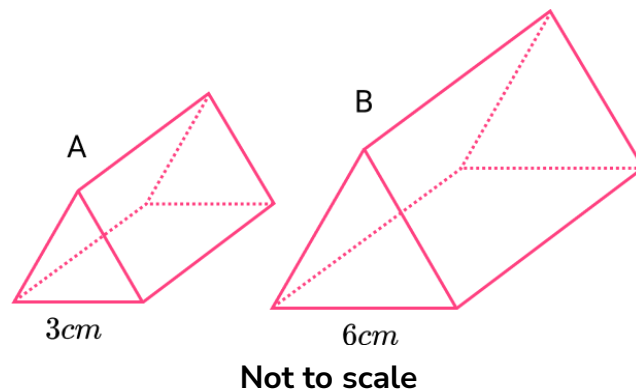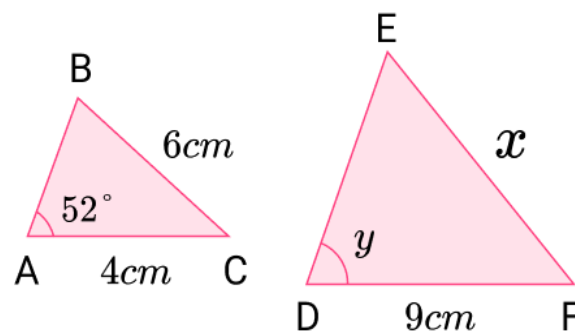

Diagram is NOT drawn to scale.

(a)   Write down the size of angle y.

....
(1)

(b)   Work out the value of x.

....
(2)
(3 marks)

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Similar Shapes - Exam Questions
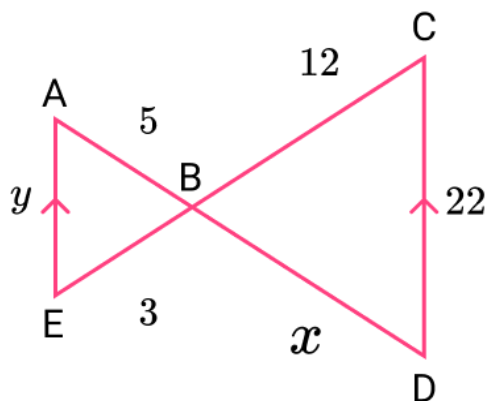
3)   *AB* and *CD* are parallel lines.

Diagram is NOT drawn to scale.
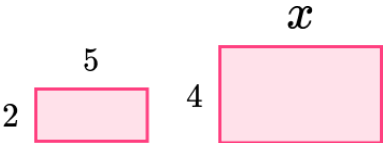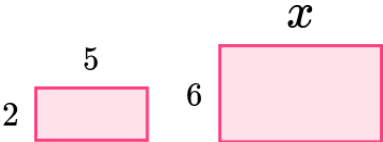
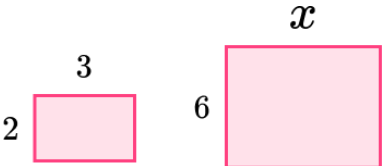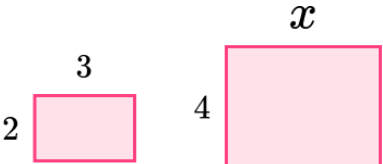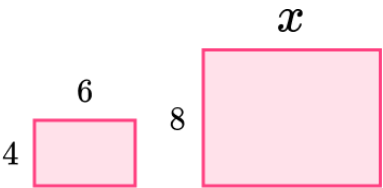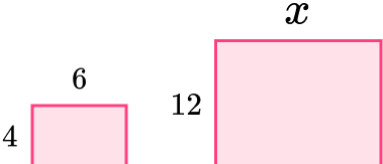**(a)**   Work out the value of x.

....
(2)
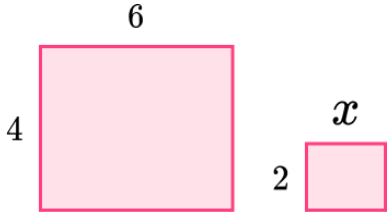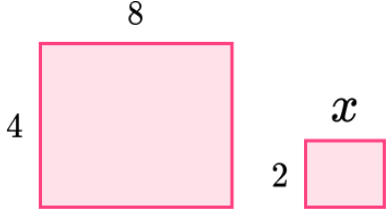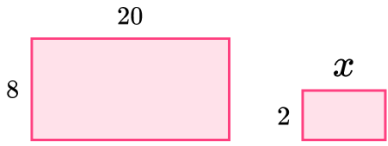
(b)   Work out the value of y.

....
(2)
(4 marks)
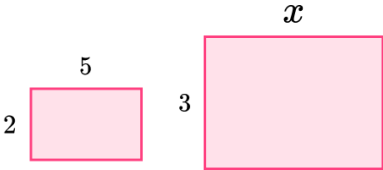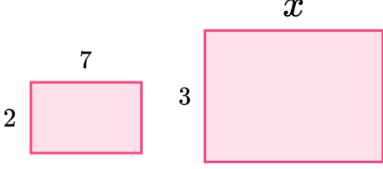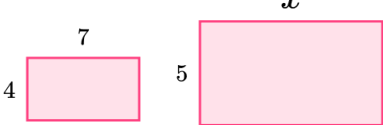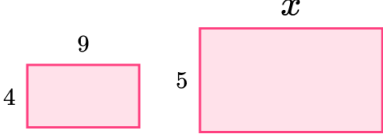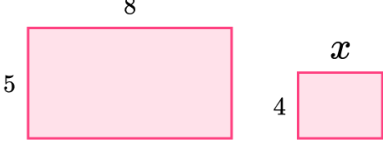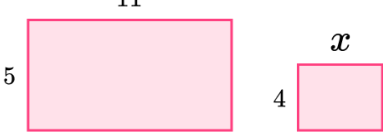
Similar Shapes - Answers

	Question	Answer
	Skill Questions	
Group A	These rectangles are similar. All lengths are in cm. Diagrams are **NOT** drawn to scale. Find the value of x.	
	1) x 5 2 4	**1)** 10
	2) x 5 2 6	**2)** 15
	3) x 3 2 6	**3)** 9
	4) x 3 2 4	**4)** 6
	5) x 6 4 8	**5)** 12
	6) x 6 4 12	**6)** 18

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8
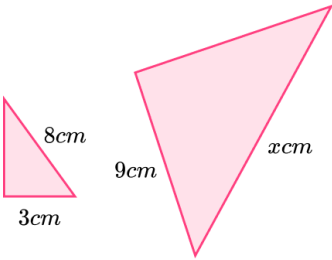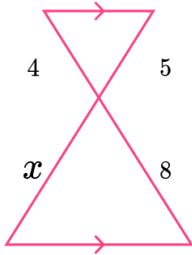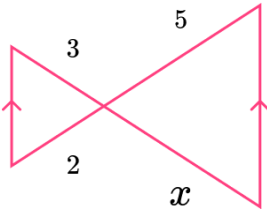
Similar Shapes - Answers

Group B	These rectangles are similar. All lengths are in cm. Diagrams are **NOT** drawn to scale. Find the value of x.	
	1) 6 4 x 2	**1)** 3
	2) 8 4 x 2	**2)** 4
	3) 12 3 x 1	**3)** 4
	4) 9 3 x 1	**4)** 3
	5) 20 8 x 2	**5)** 5
	6) 24 8 x 2	**6)** 6

THIRD SPACE
LEARNING
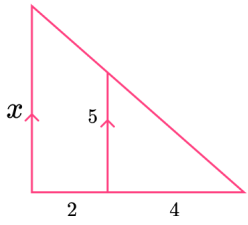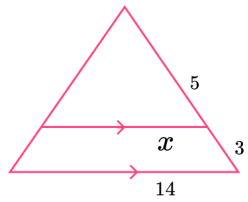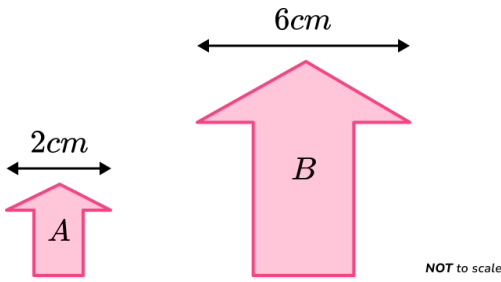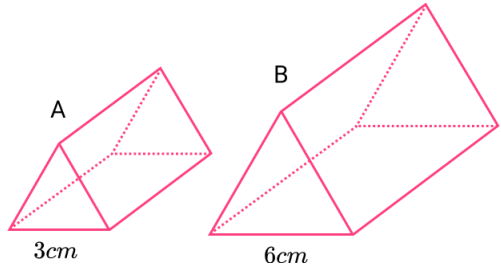
Similar Shapes - Answers

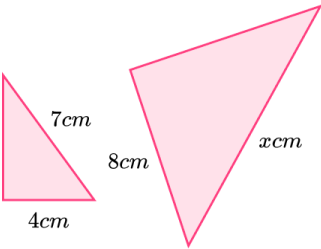| Group C	These rectangles are similar. All lengths are in cm. Diagrams are **NOT** drawn to scale. Find the value of x.	
	1) 5 2 x 3	**1)** 7.5
	2) 7 2 x 3	**2)** 10.5
	3) 7 4 x 5	**3)** 8.75
	4) 9 4 x 5	**4)** 11.25
	5) 8 5 x 4	**5)** 6.4
	6) 11 5 x 4	**6)** 8.8

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10
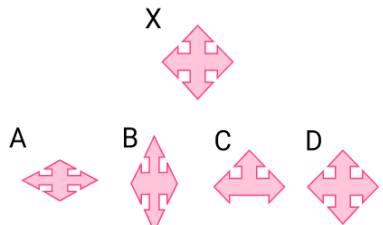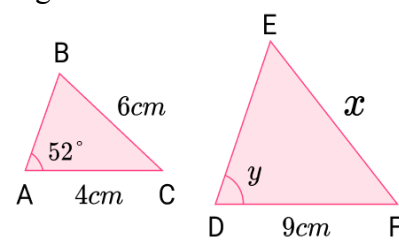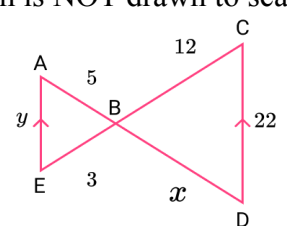
Similar Shapes - Answers

	Question	Answer
	Applied Questions	
1)	**a)** These triangles are similar. Find the value of x. 7cm 8cm $x$cm 4cm **Not to scale**	**a)** 14
	b) These triangles are similar. Find the value of x. 8cm 9cm $x$cm 3cm **Not to scale**	**b)** 24
2)	**a)** All lengths are in cm. Find the value of x. 4 5 x 8 **Not to scale**	**a)** 10
	b) All lengths are in cm. Find the value of x. 5 3 2 x **Not to scale**	**b)** 7.5

Similar Shapes - Answers

3)

a) All lengths are in cm. Find the value of x.

Not to scale

a) 7.5

b) All lengths are in cm. Find the value of x.

Not to scale

b) 8.75

4)

a) These two shapes are similar. The area of shape A is $25cm^2$. What is the area of shape B?

$6cm$

$2cm$

B

A

NOT to scale

a) $225cm^2$

b) These two triangular prisms are similar. The volume of shape A is $100cm^3$. What is the volume of shape B?

A

B

$3cm$ $6cm$

b) $800cm^3$

Similar Shapes - Mark Scheme

	Question	Answer	
	Exam Questions		
1)	Which shape is similar to shape *X*?	Shape *D*	**(1)**
2)	Triangles *ABC* and *DEF* are similar. Diagram is NOT drawn to scale.		
(a)	Write down the size of angle *y*.	**(a)** $y = 52$	**(1)**
(b)	Work out the value of *x*.	**(b)** $9 \div 4 = 2.25$ $x = 13.5$	**(1)** **(1)**
3)	*AB* and *CD* are parallel lines. Diagram is NOT drawn to scale.		
(a)	Work out the value of *x*.	**(a)** $x = 5 \times 4$ $x = 20$	**(1)** **(1)**
(b)	Work out the value of *y*.	**(b)** $y = 22 \times \dfrac{1}{4}$ (or $y = 22 \div 4$) $y = 5.5$	**(1)** **(1)**