Steady Steps Maths

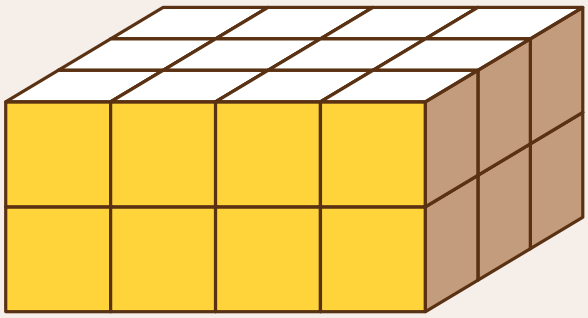
FREE SAMPLE WORKSHEET · TOPIC 10

FREE SAMPLE

Area, Surface Area & Volume

Free sample worksheet · with answers

GRADE 6



4 × 3 × 2 = 24 cubes

Common Core 6.G.A.1–4

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Quick recap

The big idea from each pack in this topic. Read it first, then try the questions.

Learn it · Pack 1 · Area of polygons

Parallelogram: A = b × h · Triangle: A = $\frac{1}{2}$ × b × h · Trapezoid: A = $\frac{1}{2}$ × (a + b) × h
Always use the height at a right angle to the base, not a slanted side.

Learn it · Pack 2 · Coordinate shapes

Same y-coordinate: length = difference in x. Same x-coordinate: difference in y.
(−2, 3) to (4, 3) is **6 units**.

Learn it · Pack 3 · Surface area

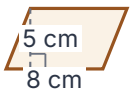
Add the areas of all the faces. A net shows them laid flat.
Box 4 × 3 × 2 cm: 2 × (12 + 8 + 6) = **52 cm²**

Learn it · Pack 4 · Volume

V = l × w × h, or V = base area × height.
Box $2\frac{1}{2}$ × 2 × 3 cm: V = **15 cm³**

PACK 1 Area of Polygons

1 Find the area of the parallelogram.



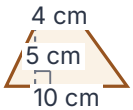
Answer _____

2 Find the area of the triangle.



Answer _____

3 Find the area of the trapezoid.



Answer _____

4 A triangle has a base of 9 cm and a height of 7 cm. Find its area.

Answer _____

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PACK 2 Shapes on the Coordinate Plane

5 How long is the line segment from (−5, 2) to (3, 2)?

Answer

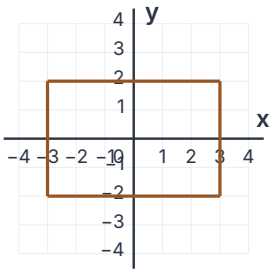
6 How long is the line segment from (4, −6) to (4, 1)?

Answer

7 A rectangle has vertices (1, 1), (7, 1), (7, 5) and (1, 5). Find its area.

Answer

8 Find the perimeter of the rectangle.



Answer

PACK 3 Nets & Surface Area

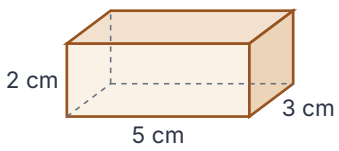
9 A net is made of 1 square and 4 triangles. Which solid does it fold into?

Answer

10 Find the surface area of a cube with 5 cm edges.

Answer

11 Find the surface area of the box.



Answer

12 How many faces does a triangular prism have?

Answer

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PACK 4

Volume of Prisms

13 Find the volume of a box 6 cm by 4 cm by 3 cm.

Answer

14 A prism has a base area of 15 cm² and a height of 8 cm. Find its volume.

Answer

15 Find the volume of a box $1\frac{1}{2}$ cm by 4 cm by 5 cm.

Answer

16 How many $\frac{1}{2}$ cm cubes fit in a row along a 3 cm edge?

Answer

Real life

Read carefully, then show your working

17 A gift box is 20 cm long, 10 cm wide and 8 cm tall.
(a) Find its volume. (b) How much card is needed to make it (its surface area)?

Answer

18 The front of a house is an 8 m by 3 m rectangle with a triangle on top. The triangle has a base of 8 m and a height of 2 m.
(a) Find the total area of the front. (b) The door is 1 m by 2 m. What area of the front needs painting?

Answer

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Answer key

For parents · check the steps as well as the final answer

Pack 1	**1)** 40 cm² **2)** 30 cm² **3)** 35 cm² **4)** 31.5 cm²
Pack 2	**5)** 8 units **6)** 7 units **7)** 24 square units **8)** 20 units (6 + 4 + 6 + 4)
Pack 3	**9)** a square pyramid **10)** 150 cm² **11)** 62 cm² **12)** 5
Pack 4	**13)** 72 cm³ **14)** 120 cm³ **15)** 30 cm³ **16)** 6
Real life	**17)** (a) 1,600 cm³ (b) 880 cm² **18)** (a) 24 + 8 = 32 m² (b) 30 m²

Tip: Encourage your child to write the formula first, then substitute, and to check the units: cm for length, cm² for area, cm³ for volume.

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Enjoyed this sample?

This sheet has 18 questions. The full topic has 123, plus 10 unit tests.

Everything a Grade 6 student needs on geometry: the area of triangles, parallelograms, trapezoids and composite shapes, polygons on the coordinate plane, nets and surface area, and the volume of boxes with fractional edges.

What you get	What's inside	Questions
Pack 1 · Area of Polygons	Learn-it boxes, worked examples, practice, word problems, self-check and answer key · Common Core 6.G.A.1	34
Pack 2 · Shapes on the Coordinate Plane	Learn-it boxes, worked examples, practice, word problems, self-check and answer key · Common Core 6.G.A.3	25
Pack 3 · Nets & Surface Area	Learn-it boxes, worked examples, practice, word problems, self-check and answer key · Common Core 6.G.A.4	27
Pack 4 · Volume of Prisms	Learn-it boxes, worked examples, practice, word problems, self-check and answer key · Common Core 6.G.A.2	37
Complete Topic book	All 4 packs in one book with a contents page	123
10 Unit Tests (A–J)	40 marks each, about 40 minutes, with a mark scheme and a "what to revise" table. **Test A is free.**	18 per test

How to use this sample

1. Let your child read the recap page and try the questions on their own.
2. Mark together with the answer key. Each section shows which pack it comes from.
3. If a section felt hard, that pack is the place to start. If it all felt easy, try the free Unit Test A.

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