

Week 3

This week in a nutshell:

Q1 looks at initial angle facts. Display some visual aids and start each lesson by asking students to estimate the size of an angle to inject some fun competition. Ensure students write their method and not just the final answer when solving equations in Q2. Students may need reminders to help them complete calculations with decimals in Q3. Like last week, emphasise correct units in Q4. For Q5 you may want to print -5 to 5 axes, or demonstrate to students how to draw these quickly on squared paper.

Question 1: Angle facts

Question 2: Solving one step equations

Question 3: Decimal calculation

Question 4: Volume of cuboids

Question 5: Plotting coordinates

The questions aim to develop and deepen understanding over the week. Due to the necessity of the topics covered this week, there is an emphasis on the interchangeability of command words, and language flexibility. It may be worth taking some extra time this week to make sure your students are developing their mathematical literacy.

This week's ideas for class discussion include:

Question 1: **Angle facts**

- It is unknown exactly why ancient mathematicians started measuring angles in degrees. Can you think of any reasons why the measure of 360 degrees in a full turn was chosen?

Question 2: **Solving one step equations**

- Look at two different methods for explaining how to solve the same equation (such as 'do the same to both sides' and 'inverse operations'). Which method do you prefer and why?

Question 3: **Decimal calculation**

- What are the answers to 0.3×0.4 , 3×0.04 and 0.003×40 ? Discuss the impact of place value when multiplying with decimals.

Question 4: **Volume of cuboids**

- How would you describe volume to a student in primary school?
- Could you write a definition of volume using mathematical terminology?

Question 5: **Plotting coordinates**

- Can you think of any mnemonics to remember which way round you must plot coordinates?

Week 3: Day 1

1) How many degrees in a full turn?

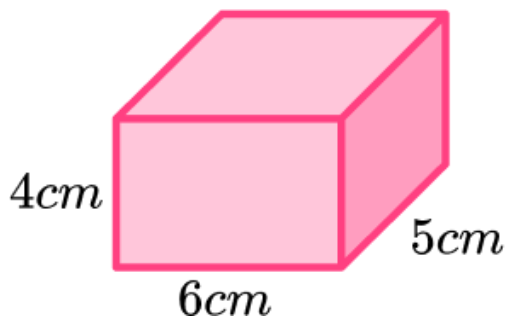
2) Solve:

$$x + 13 = 22$$

3) Calculate:

$$3.72 + 7.69 =$$

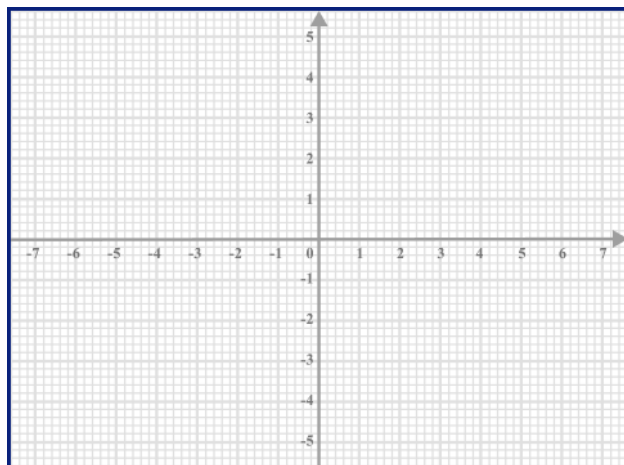
4) What is the volume of this cuboid?



5) Plot and label:

A (3, 2)

B (-4, -3)



Week 3: Day 1 Answers

1) How many degrees in a full turn? 360°

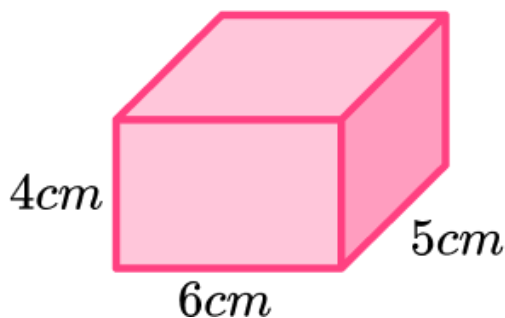
2) Solve:

$$x + 13 = 22 \quad x = 9$$

3) Calculate:

$$3.72 + 7.69 = 11.41$$

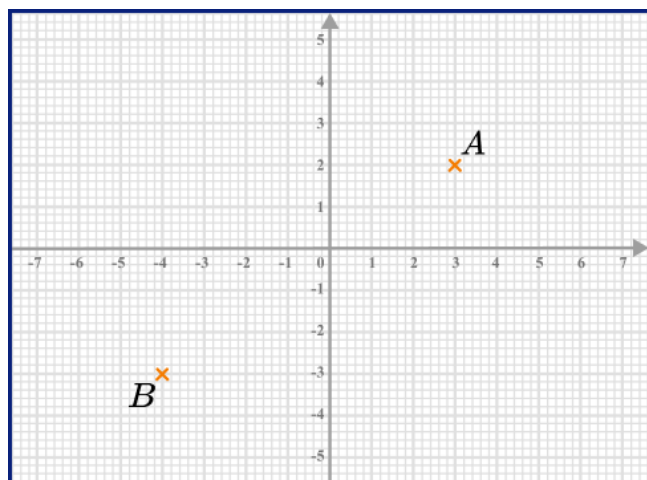
4) What is the volume of this cuboid? 120cm^3



5) Plot and label:

A (3, 2)

B (-4, -3)



Week 3: Day 2

1) How many degrees in half a turn?

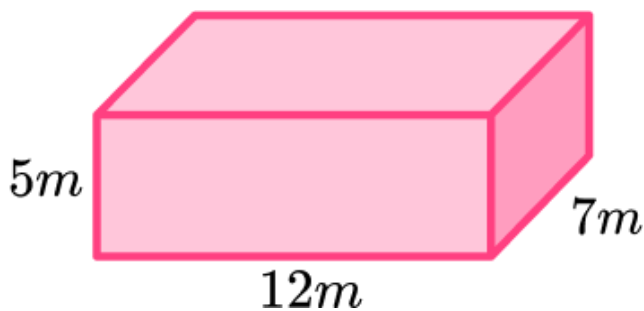
2) Solve:

$$x - 5 = 18$$

3) Calculate:

$$2.41 - 0.638 =$$

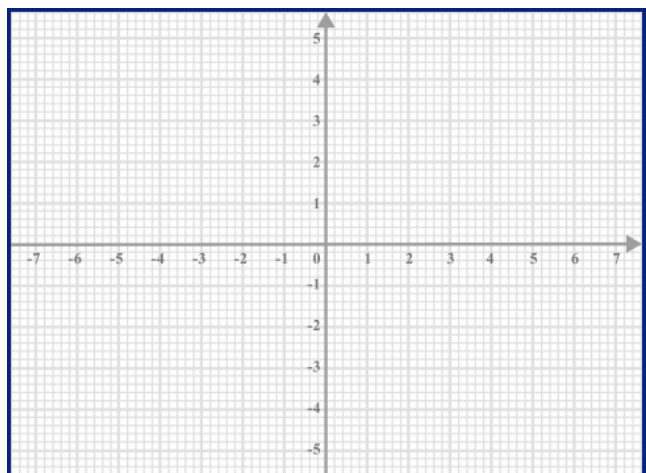
4) What is the volume of this cuboid?



5) Plot and label:

A (-3, 2)

B (1, -5)



Week 3: Day 2 Answers

1) How many degrees in half a turn? 180°

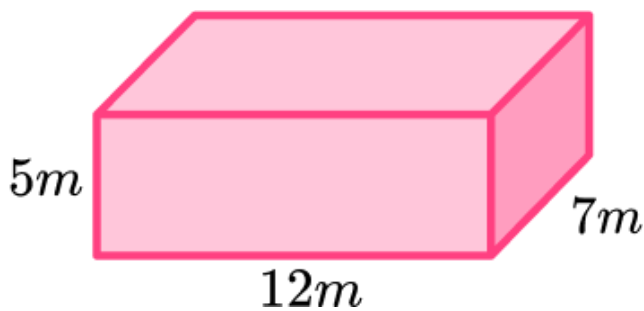
2) Solve:

$$x - 5 = 18 \quad x = 23$$

3) Calculate:

$$2.41 - 0.638 = 1.772$$

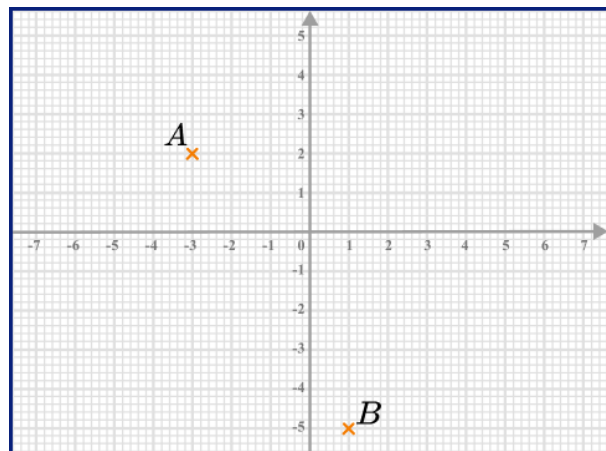
4) What is the volume of this cuboid? 420cm^3



5) Plot and label:

A (-3, 2)

B (1, -5)



Week 3: Day 3

1) How many degrees in a quarter turn?

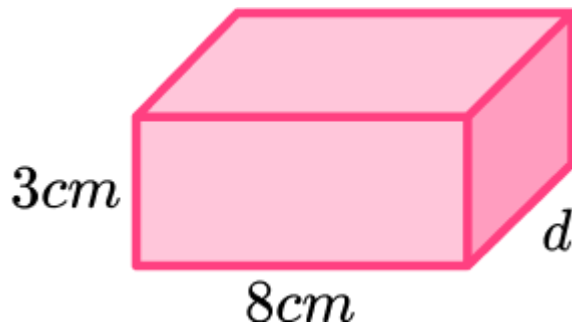
2) Solve:

$$8x = 28$$

3) Calculate:

$$1.6 \times 2.4 =$$

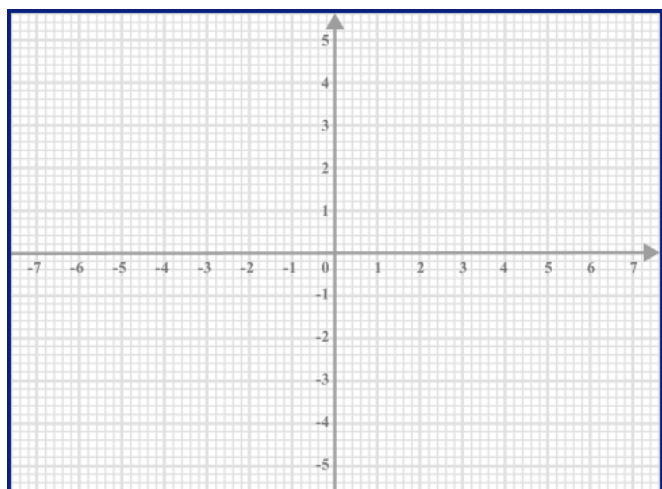
4) The volume of this cuboid is 120 cm^3 . What is the length of edge d ?



5) Plot and label:

A (0, 0.5)

B (-6, -1)



Week 3: Day 3 Answers

1) How many degrees in a quarter turn? 90°

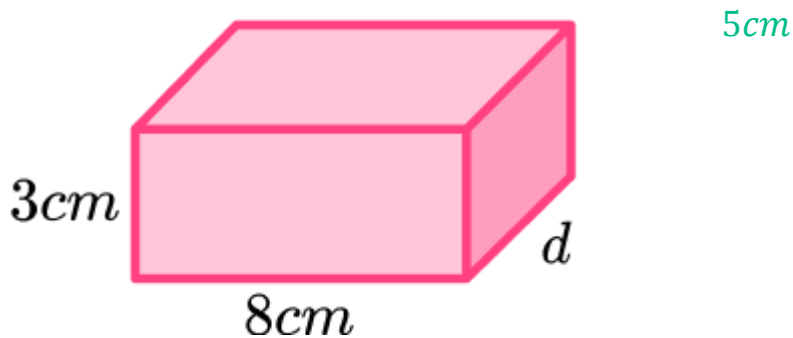
2) Solve:

$$8x = 28 \quad x = 3.5$$

3) Calculate:

$$1.6 \times 2.4 = 3.84$$

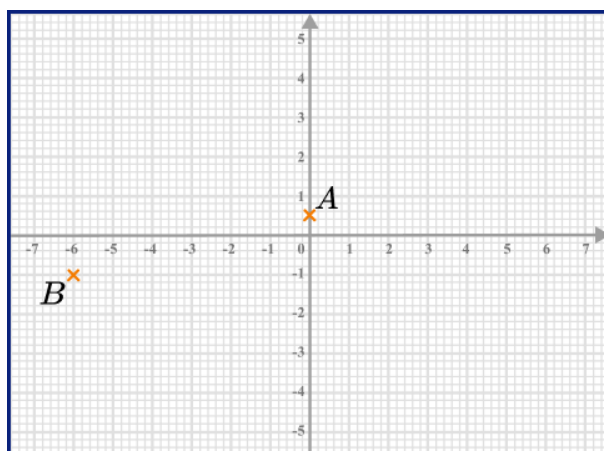
4) The volume of this cuboid is 120 cm^3 . What is the length of edge d ?



5) Plot and label:

A (0, 0.5)

B (-6, -1)



Week 3: Day 4

1) How many degrees in three quarters of a full turn?

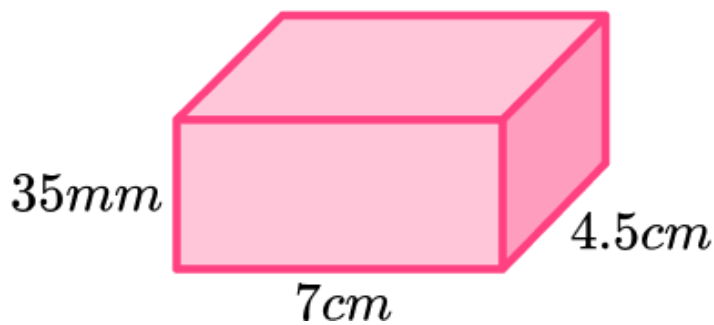
2) Solve:

$$\frac{x}{5} = 2.4$$

3) Calculate:

$$2.55 + 1.2 - 0.112 =$$

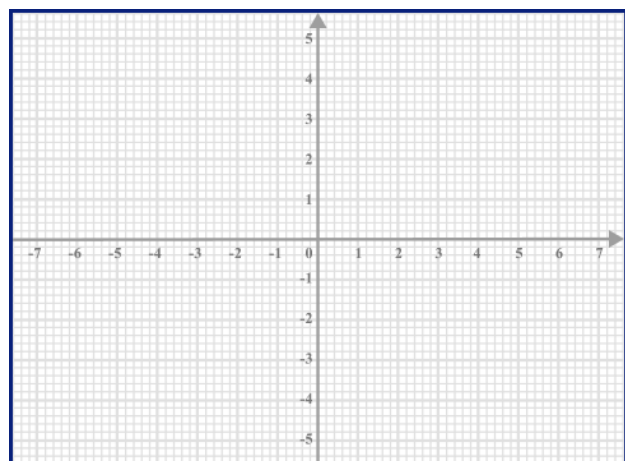
4) What is the volume of this cuboid? Give your answer in cubic centimetres.



5) Plot and label:

A (1.5, 4.5)

B (-5, -1)



Week 3: Day 4 Answers

- 1) How many degrees in three quarters of a full turn? 270°

- 2) Solve:

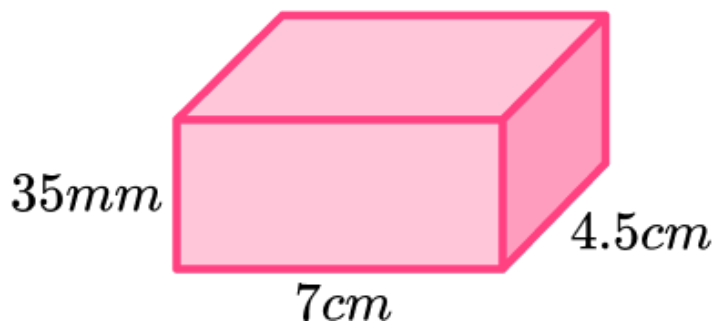
$$\frac{x}{5} = 2.4 \quad x = 12$$

- 3) Calculate:

$$2.55 + 1.2 - 0.112 = 3.638$$

- 4) What is the volume of this cuboid? Give your answer in cubic centimetres.

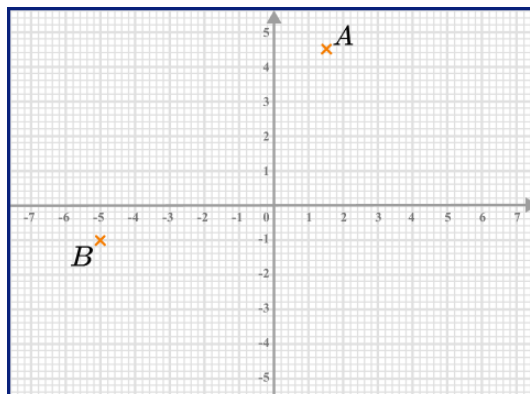
$$110.25\text{cm}^3$$



- 5) Plot and label:

A (1.5, 4.5)

B (-5, -1)



Week 3: Day 5

1) How many degrees in half a right-angle?

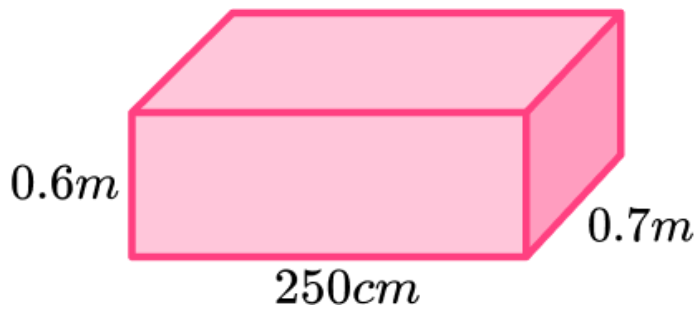
2) Solve:

$$\frac{11}{x} = 33$$

3) Calculate:

$$1.26 + 0.3 =$$

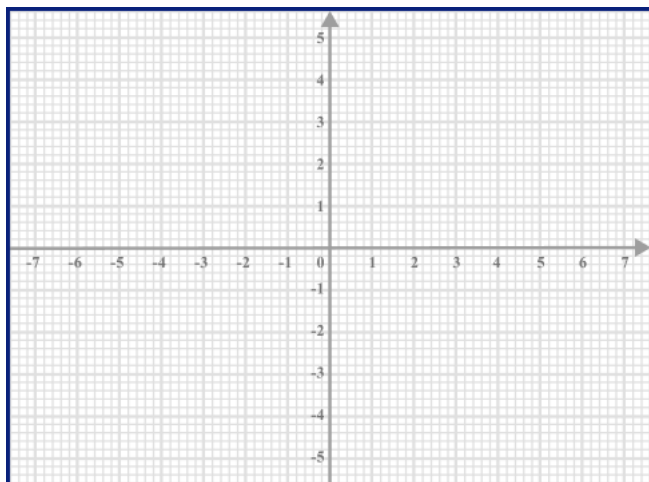
4) What is the volume of this cuboid? Give your answer in cubic metres.



5) Plot and label:

A (2, 4)

B (0, -4)



Week 3: Day 5 Answers

1) How many degrees in half a right-angle? 45°

2) Solve:

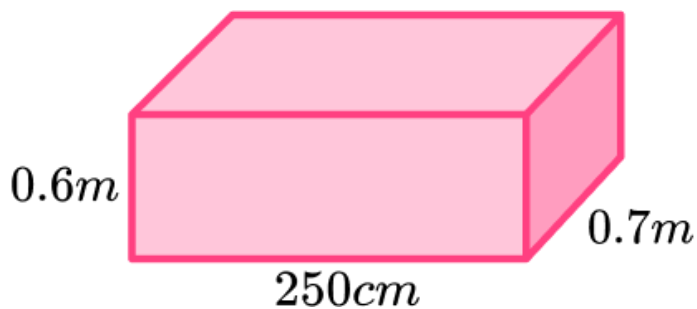
$$\frac{11}{x} = 33 \quad x = \frac{1}{3}$$

3) Calculate:

$$1.26 + 0.3 = 1.56$$

4) What is the volume of this cuboid? Give your answer in cubic metres.

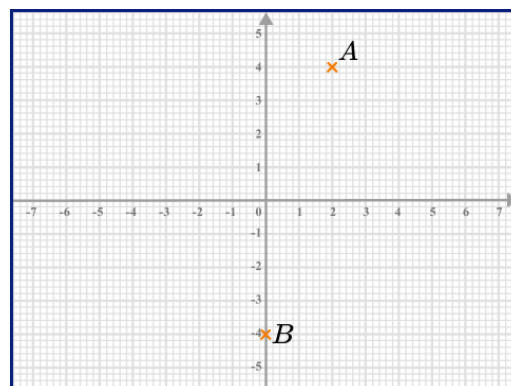
$$1.05\text{cm}^3$$



5) Plot and label:

A (2, 4)

B (0, -4)



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