Test - Volume and surface area of prisms

Year: Year 8 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Volume

Answer all parts. Show your working.

a. Find the volume of a cuboid 9 cm by 6 cm by 5 cm. (1 mark)
b. A triangular prism has a triangle with base 10 cm and height 6 cm, and a length of 15 cm. Find its volume. (2 marks)
c. A tank holds 2.4 m^3 of water. How many litres is this? (1 mark)

Question 2 (4 marks)

Question 2 – Surface area

A cuboid is 7 cm by 4 cm by 3 cm.

a. Find the total surface area. (2 marks)
b. A cube has the same surface area. Find the side length to 1 decimal place. (2 marks)

Question 3 (4 marks)

Question 3 – Cylinder

A cylinder has radius 6 cm and height 10 cm. Give answers to 1 decimal place.

a. Find its volume. (2 marks)
b. Find its curved surface area. (2 marks)

Question 4 (4 marks)

Question 4 – Problem: the swimming pool

A swimming pool is a cuboid 15 m long, 8 m wide and 1.4 m deep. It is filled at 3 000 litres per minute.

a. Find the volume in m^3. (1 mark)
b. How long does it take to fill? Give your answer in hours and minutes. (3 marks)

Question 5 (4 marks)

Question 5 – Problem: the chocolate box

A box of chocolates is a prism. Its cross-section is a trapezium with parallel sides 6 cm and 10 cm and a height of 4 cm. The box is 25 cm long.

a. Find the volume. (2 marks)
b. The box is wrapped in paper (total surface area). Find the area of paper if the sloping sides are each 4.5 cm. (2 marks)