MATHEMATICS · YEAR 6

ALGEBRA

Using Formula to Solve Problems

Substitute values into formulae to solve practical problems.

Name _____ **Date** _____

Use the given formula for each question. Substitute the numbers, show your working and include the correct units.

1 QUESTION — PERIMETER

FORMULA **P = 2(l + w)**

A rectangle is 12 cm long and 7 cm wide. Find its perimeter.

SUBSTITUTION AND WORKING

Answer: _____ cm

2 QUESTION — AREA

FORMULA **A = l × w**

A rectangle is 9 m long and 4 m wide. Find its area.

SUBSTITUTION AND WORKING

Answer: _____ m²

3 QUESTION — PERIMETER

FORMULA **P = 4s**

A square has sides that are each 8.5 cm long. Find its perimeter.

SUBSTITUTION AND WORKING

Answer: _____ cm

4 QUESTION — AREA

FORMULA **A = (b × h) ÷ 2**

A triangle has a base of 10 cm and a height of 6 cm. Find its area.

SUBSTITUTION AND WORKING

Answer: _____ cm²

5 QUESTION — DISTANCE

FORMULA **d = s × t**

A train travels at 14 km/h for 3 hours. How far does it travel?

SUBSTITUTION AND WORKING

Answer: _____ km

6 QUESTION — MONEY

FORMULA **E = r × h**

A gardener charges £9.50 per hour and works for 6.5 hours. Find the total charge in pounds and pence.

SUBSTITUTION AND WORKING

Answer: £ _____

7 QUESTION — MULTIPLICATION

FORMULA **J = 150n**

Let n be the number of cups. Each cup holds 150 ml. How much juice is needed for 7 cups?

SUBSTITUTION AND WORKING

Answer: _____ ml

8 QUESTION — PERIMETER

FORMULA **F = 2(l + w) − g**

A garden is 18 m long and 11 m wide, with a 2 m gate left open. Find the fencing needed.

SUBSTITUTION AND WORKING

Answer: _____ m

Check your work: ☐ formula used ☐ units included