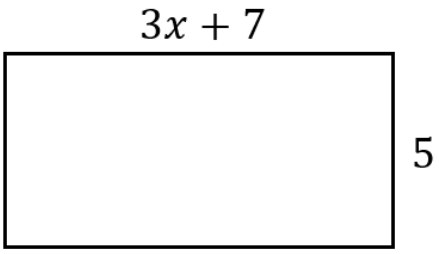
Forming and Solving Equations Exam Practice

Q1. a) Find an expression for the perimeter of the shape below, in terms of x, simplifying your answer fully.



Answer: _____

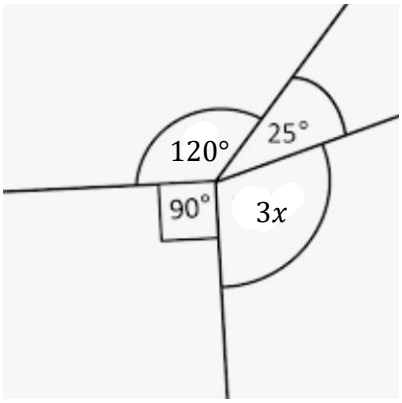
(2 marks)

b) Given that the perimeter of the shape is 79 cm, find x.

Answer: _____

(2 marks)

Q2. By forming and solving a suitable equation, find the value of x.



Answer: _____

(3 marks)

Q3. Jim buys p folders, Bill buys twice as many folders as Jim, and Peter buys 4 more folders than Bill.

a) Work out an expression for how many folders they have bought altogether.

Answer: _____

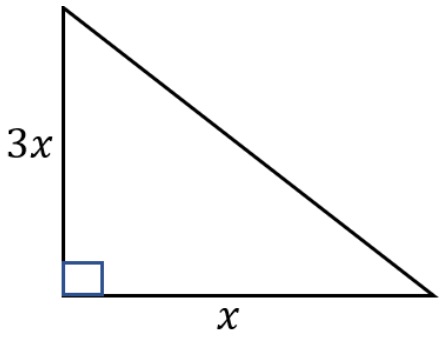
(2 marks)

b) You are given that they buy a total of 34 folders. Work out how many folders they bought each.

Answer: _____

(2 marks)

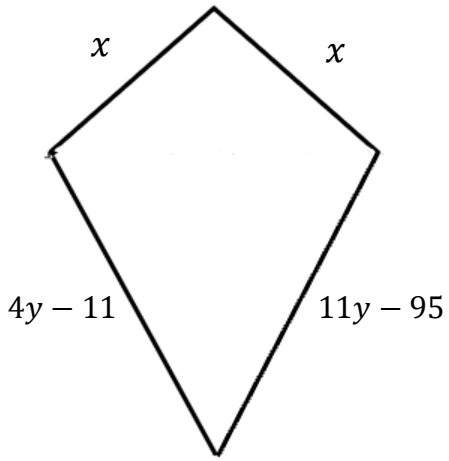
Q4. The area of the right-angled triangle below is 192 cm^2. Find the lengths of the two perpendicular sides.



Answer: _____

(3 marks)

Q5. The diagram below shows a kite. The perimeter of the kite is 92 cm.
Find the length of each side.



Answer: _____

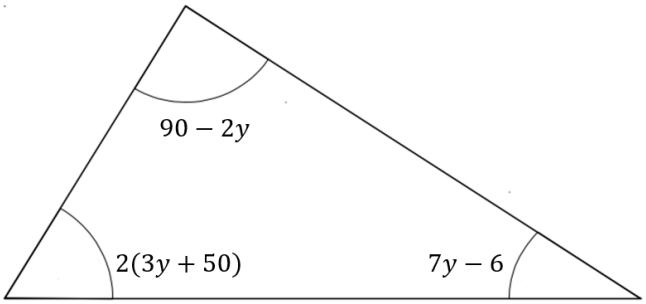
(4 marks)

Q6. In 5 years' time, Tony will three times as old as he was 3 years ago.
How old is he now?

Answer: _____

(3 marks)

Q7. In the triangle below, all the angles are marked in degrees. Find the size of each of the three angles.



Answer: _____

(4 marks)

Q8. Jo buys x cans of paint at the warehouse. Each one costs 80p and he will sell them for £4.30 each in his shop. The running costs of the shop each day are £25.

(i) Let P be Jo's daily profit in pounds. Find an equation for P in terms of x.

Answer: _____

(2 marks)

(ii) Find the number of cans he needs to make a profit of £115.

Answer: _____

(2 marks)

Q9. The ratio of the perimeter of a square to the perimeter of an equilateral triangle is $1 : 2$. If the square has side length $2x - 5$ and the triangle has side length 16, find the perimeter of the square.

Answer: _____

(4 marks)