Test - Solving linear equations

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 – Solving equations

Solve each equation. Show your working.

a. $5x - 7 = 18$ (2 marks)
b. $3(x + 2) = 2x + 11$ (2 marks)

Question 2 (4 marks)

Question 2 – Both sides and fractions

Solve each equation.

a. $7x + 2 = 3x + 18$ (2 marks)
b. $\dfrac{x + 5}{3} = 4$ (1 mark)
c. $4 - 3x = 19$ (1 mark)

Question 3 (4 marks)

Question 3 – Forming an equation

The perimeter of a triangle with sides x cm, $(x + 3)$ cm and $(2x - 1)$ cm is 30 cm.

a. Write and simplify an equation. (1 mark)
b. Solve it. (1 mark)
c. Find the longest side. (1 mark)
d. Check that the three sides add to 30 cm. (1 mark)

Question 4 (4 marks)

Question 4 – Problem: taxi fares

Taxi A charges £2.50 plus £1.60 per mile. Taxi B charges £4 plus £1.10 per mile.

a. Write an equation for the distance at which the fares are equal. (1 mark)
b. Solve it. (2 marks)
c. Which taxi is cheaper for a 5-mile journey? (1 mark)

Question 5 (4 marks)

Question 5 – Problem: consecutive numbers

Three consecutive even numbers add up to 114.

a. Write an equation using n for the smallest number. (1 mark)
b. Solve it and write the three numbers. (2 marks)
c. Is it possible for three consecutive even numbers to add up to 100? Explain. (1 mark)