Test - Solving linear equations and rearranging formulae

Year: Year 9 · 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.

a. $4x - 9 = 19$ (1 mark)
b. $5(x + 2) = 40$ (1 mark)
c. $7x + 3 = 4x + 24$ (2 marks)

Question 2 (4 marks)

Question 2 – Equations with fractions

Solve each equation.

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

Question 3 (4 marks)

Question 3 – Forming an equation

A rectangle has length $(3x - 1)$ cm and width $(x + 2)$ cm. Its perimeter is 42 cm.

a. Form an equation in x. (1 mark)
b. Solve the equation. (2 marks)
c. Find the length and width. (1 mark)

Question 4 (4 marks)

Question 4 – Changing the subject

Rearrange the formulae.

a. Make x the subject of $y = 5x - 3$. (2 marks)
b. Make h the subject of $V = lwh$. (2 marks)

Question 5 (4 marks)

Question 5 – Problem: the tickets

Adult tickets for a show cost £9 and child tickets cost £6. A total of 30 tickets were sold for £219.

a. Let a be the number of adult tickets. Write an equation. (1 mark)
b. Solve it to find a. (2 marks)
c. Find the number of child tickets. (1 mark)