Test - Formulae and rearranging

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 – Substituting and rearranging

Answer all parts. Show your working.

a. $v = u + at$. Find v when $u = 6$, $a = -2$ and $t = 4$. (2 marks)
b. Make x the subject of $y = 5x - 8$. (2 marks)

Question 2 (4 marks)

Question 2 – Words and rearranging

Choose the word and rearrange.

a. Write whether $2x + 3 = 11$ is an equation, expression or formula. (1 mark)
b. Rearrange $P = 2(a + b)$ to make a the subject. (2 marks)
c. Find a when $P = 30$ and $b = 4$. (1 mark)

Question 3 (4 marks)

Question 3 – Temperature

The formula for changing °C to °F is $F = 1.8C + 32$.

a. Change 20°C to °F. (1 mark)
b. Make C the subject. (2 marks)
c. Change 59°F to °C. (1 mark)

Question 4 (4 marks)

Question 4 – Problem: the hire company

Speedy Hire charges £25 plus £8 per day to hire a ladder. The cost is $C = 25 + 8d$.

a. Find the cost of hiring for 5 days. (1 mark)

b. Rearrange the formula to make d the subject. (1 mark)
c. Josh has £70. What is the longest hire period he can afford? (2 marks)

Question 5 (4 marks)

Question 5 – Problem: the rival company

A rival firm, Handy Hire, charges $C = 15 + 10d$.

a. Form an equation and find the number of days for which both firms cost the same as Speedy Hire ($C = 25 + 8d$). (2 marks)
b. Which firm is cheaper for a 10-day hire? Show your working. (2 marks)