Test - Problem solving and GCSE exam practice

Year: Year 11 · Duration: 40 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 – Ratio and percentage

£360 is shared in the ratio $5 : 7$.

a. Work out each share. (2 marks)
b. Work out 12% of the larger share. (2 marks)

Question 2 (4 marks)

Question 2 – Solving equations

Solve these.

a. $5(x - 2) = 3x + 6$ (2 marks)
b. $3x + 2y = 16$ and $x - y = 2$ (2 marks)

Question 3 (4 marks)

Question 3 – Trigonometry

A tower is 30 m tall. A point on the ground is 50 m from the base of the tower.

a. Work out the angle of elevation of the top from the point, to 1 decimal place. (3 marks)
b. Work out the distance from the point to the top. (1 mark)

Question 4 (4 marks)

Question 4 – Proof

Prove that the sum of two consecutive odd numbers is always a multiple of 4.

Question 5 (4 marks)

Question 5 – Problem: fencing a field

A rectangular field is 40 m by 25 m. A fence goes all the way round except for a 3 m gate. Fencing costs £14.50 per metre.

a. Work out the length of fence needed. (2 marks)
b. Work out the total cost. (2 marks)