

Activity 3: answers

Remember that markers undergo an extensive period of training and of practice before marking.

Response A

Examiner's comments:

This response was given 3 marks. (a) M1 dM0 A0 (b) B0 M1 A1 A0

Part (a): a common factor of x is taken out but the roots of the resulting quadratic are just written down. The demand of the question "Find, using algebra, all real solutions of" meant that factorisation or formula was required to solve the quadratic equation.

In part (b), the candidate does use their positive root from part (a) to find at least one value for y . In fact, $y = 5 \pm \sqrt{\frac{7}{2}}$ are two of the three correct values. The B1 mark is not awarded as $y = 5$ is not found and the A1 mark at the end of the question is withheld due to the extra incorrect solutions of $5 \pm \sqrt{5}$.

Response B

Examiner's comments:

This response was given 7 marks. (a) M1 dM1 A1 (b) B1 M1 A1 A1

Part (a) is completely correct. Note that in this response the candidate uses algebra to find all three solutions (via factorisation).

In part (b), the candidate rejects the solution from the negative root and gives the 3 correct solutions. Hence, all three marks can be awarded.

Examiner's report

In part (a), the majority of candidates scored full marks. Some candidates made errors when factorising or using the quadratic formula and as a result did not derive the correct roots. Some candidates divided by x , rather than factorising it out, and therefore missed the zero root. As stated earlier, a sizeable number of candidates merely stated the answers, showing no working at all, thus scoring 0 marks in (a).

In part (b), candidates struggled to understand the link with part (a). Some candidates attempted to multiply out and solve the resulting equation or else made an incorrect connection with part



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(a). Others set $(y - 5)$ or $(y - 5)^2$ equal to u , then recalculating the answers for part (a). Candidates who omitted the zero root of the equation in x usually did not identify 5 as a root of the equation in y . Some candidates used the correct approach but did not obtain both solutions from the positive root of part (a), neglecting the \pm in the quadratic formula.

(Mean Mark 3.9 out of 7)