08 | Algebraic fractions

Question 1 of 2 · 6 marks · Allow 15–20 minutes per question

Name: _____ Date: _____ Score: ____ / 6

Solve $2/(x-1)+3/(x+1)=1+1/(x^2-1)$. State all excluded values before clearing denominators, and give exact solutions.

Show your working, reasoning and any diagrams.

Check: Have you stated exclusions, units and any assumptions?

Calculator permitted; give exact values where requested. Powers use x^n notation.

08 | Algebraic fractions

Question 2 of 2 · 6 marks · Allow 15–20 minutes per question

Name: _____ Date: _____ Score: ____ / 6

Simplify $F(x)=(x^2-9)/(x^2-x-6)$, stating the full domain of the original expression. Solve $F(x)=3/2$. Prove that $F(x)$ can never equal 1 for a permitted value of x.

Show your working, reasoning and any diagrams.

Check: Have you stated exclusions, units and any assumptions?

Calculator permitted; give exact values where requested. Powers use x^n notation.