

- 1) Prove algebraically that the recurring decimal  $0.\dot{5}$  can be written as  $\frac{5}{9}$ .
- 2) Prove algebraically that the recurring decimal  $0.\dot{2}$  can be written as  $\frac{2}{9}$ .
- 3) Prove algebraically that the recurring decimal  $0.\dot{3}$  can be written as  $\frac{1}{3}$ .
- 4) Prove algebraically that the recurring decimal  $0.2\dot{7}$  can be written as  $\frac{5}{18}$ .
- 5) Prove algebraically that the recurring decimal  $0.\dot{1}2$  can be written as  $\frac{4}{33}$ .
- 6) Prove algebraically that the recurring decimal  $0.\dot{4}5$  can be written as  $\frac{5}{11}$ .
- 7) Prove algebraically that the recurring decimal  $0.\dot{2}7$  can be written as  $\frac{3}{11}$ .
- 8) Prove algebraically that the recurring decimal  $0.\dot{8}1$  can be written as  $\frac{9}{11}$ .
- 9) Prove algebraically that the recurring decimal  $0.\dot{3}6$  can be written as  $\frac{4}{11}$ .
- 10) Prove algebraically that the recurring decimal  $0.\dot{1}2\dot{3}$  can be written as  $\frac{41}{333}$ .
- 11) Prove algebraically that the recurring decimal  $0.\dot{4}5\dot{6}$  can be written as  $\frac{152}{333}$ .
- 12) Prove algebraically that the recurring decimal  $0.\dot{1}0\dot{1}$  can be written as  $\frac{101}{999}$ .
- 13) Prove algebraically that the recurring decimal  $0.4\dot{3}$  can be written as  $\frac{13}{30}$ .
- 14) Prove algebraically that the recurring decimal  $3.3\dot{7}5$  can be written as  $3\frac{62}{165}$ .
- 15) Prove algebraically that the recurring decimal  $4.0\dot{1}6$  can be written as  $4\frac{8}{495}$ .
- 16) Prove algebraically that the recurring decimal  $5.\dot{1}2\dot{3}$  can be written as  $5\frac{41}{333}$ .
- 17) Prove algebraically that the recurring decimal  $0.12\dot{3}4$  can be written as  $\frac{611}{4950}$ .
- 18) Use algebra to work out the value of  $0.\dot{5}2 \div 0.\dot{8}4$ . Give your answer as a fraction in simplest form.
- 19) Use algebra to work out the value of  $0.\dot{1}2 + 0.4\dot{3}$ . Give your answer as a fraction in simplest form.
- 20) Use algebra to work out the value of  $2.2\dot{7} \times 3.5\dot{6}$ . Give your answer as a mixed number in simplest form.
- 21) Prove algebraically that  $0.\dot{9} = 1$