

101. $x^4 - 1$, $1 + x^2 + x^4$. 102. $(x^3 - a^3)(x^3 - a^6)$. 103. a .
 104. 1. 105. 13, $\pm \sqrt{\frac{35}{11}}$. 106. ± 3 ; ± 4 ; ∓ 5 ;
 or ± 3 ; ± 5 ; ∓ 4 . 107. 20 shillings.
 108. 48. 109. $\frac{x}{y} + 1 - \frac{y}{x}$. 110. $x^2 + 1 + x^{-2}$.
 111. $\frac{x^2 + 5x + 10}{x^3 + 2x^2 + 3x + 6}$, $\frac{6}{7}$. 112. 7, $\frac{38}{9}$. 113. 1 or -3.
 114. ± 2 ; ± 1 . 115. $\frac{1}{3}$, $\frac{1}{2}$; $\frac{1}{2}$, $\frac{1}{3}$.
 116. $\frac{2}{3}$. 117. $-x^{-2}$. 118. 612.
 119. $\frac{2a^2b^2 - ab^3 + a^2 - 3ab + b^2}{2ab^2 - b^3 + a - b}$. 120. $3x^2 - 5xy + 2y^2$.
 121. $x(3x + 4)(x - 6)$. 122. $\frac{2}{17}$. 123. 2, $\frac{1}{2}$.
 124. 5, $-\frac{13}{4}$; 4, $\frac{5}{4}$. 125. 1, $\frac{5}{3}$; 2; $\frac{2}{3}$. 126. 3.
 127. $3(3^n - 1)$. 128. $\frac{1}{x}$. 129. $2x(3x + 4)$.
 130. 4, -3. 131. $x^2 - x - 6 = 0$. 132. $x^4 = a^4$ or $\frac{1}{a^4}$.
 133. ± 2 . 134. 8.19615. 135. $7 - 2\sqrt{3}$. 136. $\frac{x+y}{xy}$.
 137. $\frac{c+b-2a}{b-a}$, $\frac{(a+c)(c+b-2a)}{2(b-a)}$. 138. 3, 2, 2.
 139. 197, $3x^3 - 2x^2 - 5x - 3$. 140. $a(a^2 + b^3)$, $\frac{4xa}{x^2 - a^2}$.
 141. (1) 4. (2) 0, 5. (3) 5; 7. 142. (1) 3, $\frac{80}{11}$. (2) 8.
 (3) ± 7 ; ± 5 . 143. 16; 16. 144. 20. 145. 16, 24.
 146. $\frac{15}{4}$, 169. 147. As 5 to 1. 148. x^3 . 149. $a^3 + 4b$.
 150. $x - 3$. 151. (1) 5. (2) 3. (3) 7; 4.
 152. (1) 8. (2) 9. (3) ± 9 ; ± 7 . 153. 30 pence.