

93. (i) $11a$; (ii) $\pm\sqrt{7}$; (iii) 5 or -12; (iv) $x = 1$ or $\pm\sqrt{15}$,
 $y = 5$ or $\frac{1}{5}$

94. $x^4 - x^3 - 7x^2 - 11x + 42 = 0$ 95. m 96. $(a^4 + a^3b\sqrt{2} + b^4)$
 $(a^4 - a^3b^2\sqrt{2} + b^4)$

98. $1h5m$ 99. $x = \frac{a(cd - e - bc)}{bc - ad}$; $y = \frac{b(cd - e - ad)}{bc - ad}$;

Problem indeterminate.

100. $\frac{1}{2}(a+b)$ 101. $5x^3 + 10x^2 + 5x - 23 - \frac{61x - 70}{x^2 - 2x + 3}$

or $5x^3 + 10x^2 + 5x - 23 - 61x^{-1} - 52x^{-2} + 79x^{-3} + \&c$

102. $x - y$; if $y = 1$ the *G. C. M.* is $x^2 + 4x - 5$

104. $(a^3 + am\sqrt{2} + m^3)(a^3 - am\sqrt{2} + m^3)(a^4 + a^2m^2\sqrt{3} + m^4)$
 $(m^4 - a^2m^2\sqrt{3} + m^4)$

105. 1 106. 3

114. 0 115. $7x^2 + 7xy + 7y^2$ 116. $2x^2 + x - 1$

117. $(2x - 1)(x + 1)(3x + 2)(3x - 2)$ and $(2x - 1)(x + 1)$
 $(2x + 1)(2x - 1)$

118. $\frac{1 + x + x^2}{1 - x - x^2 + x^5}$ 119. An indeterminate equation;
 an identity

123. 11, 9, 7, 5, &c 125. $3 - 2 + \frac{1}{2} - \frac{1}{3} + \frac{1}{4} - \&c$

128. $\frac{2618}{6561}x^{-12}$; $-\frac{391391}{1594323}x^{-18}$; $(-1)^r \times \frac{2.5.8 \dots (3r-1)}{r \times 8^r}x^{-3r}$

129. $x^6 - 6x^5 + 6x^4 + 30x^3 - 51x^2 - 24x + 44 = 0$

130. $\frac{1}{2}(-3 \pm \sqrt{5})$ 131. $\frac{4bc - ad}{d - 4c}$

133. $x = 2, y = 3, z = 4$ 134. $\frac{n+1}{x^n}$

135. 21 and 24 136. $1 \pm \sqrt{19}$ 137. $x = 10, y = 8$

140. $\frac{1}{2}\{\pm\sqrt{4nab + (a-b)^2} - (a+b)\}$ 141. $\frac{1}{2}$ or $\frac{1}{3}$ 142. $\frac{2}{3}\sqrt{3}$

143. $x = \pm \frac{a^2}{\sqrt{a^2 + b^2 + c^2}}$; $y = \pm \frac{b^2}{\sqrt{a^2 + b^2 + c^2}}$; $z = \pm \frac{c^2}{\sqrt{a^2 + b^2 + c^2}}$

145. $b^2 - 1$ 146. $\frac{x^2y^3}{27} + 27$ 147. $a^3 + b^3 + c^3 + d^3$

148. $\pm\{a(x+2) - 1\}$ 149. $a + b - c$

150. $4x - \frac{3x^2 - 4x - 1}{x^2 + 2x - 1}$; $4x - 3x^{-1} + 4x^{-2} + 7x^{-3} - 11x^{-4} - \&c$