

60. Area = $57\frac{1}{6}$ square units	
Ques 81 - 100	Ques 101 - 120
81. $K = -2$ and $t = -5$ 82. $x > 0$ $x < -4$ 83. $x = \frac{3}{8}$ 84. $x = 30^\circ, 90^\circ, 150^\circ$ 85. $\sin(a + b) = \frac{63}{65}$ 86. $f'(x) = -\frac{1}{5}x^{-\frac{6}{5}}$ 87. $y = 4x - 2$ 88. $\frac{(2x-1)^{\frac{3}{2}}}{3} + C$ 89. $\frac{2}{3}$ 90. $\sqrt{34}\cos(x - 59.0)^\circ$ 91. $f(g(x)) = 9x^2 - 24x + 17$ $g(f(x)) = 3x^2 - 1$ 92. $a = 4$ $b = 2$ $c = 1$ 93. 3:2 94. $\theta = 72^\circ$ 95. -1 96. $y = \frac{1}{4}x + \frac{13}{4}$ 97. $y = \frac{3}{2}x - 3$ 98. Centre $(-1, -2)$ Radius $\sqrt{32}$ 99. $L = \frac{28}{3}$ 100. Area = 9 square units	101. 4 102. $q = -9$ 103. $x = 2y^3$ 104. $x = 20^\circ, 100^\circ, 140^\circ, 220^\circ, 260^\circ, 340^\circ$ 105. $\sin 2x = \frac{4}{5}$ 106. 1 107. Max T.P. when $x = \frac{1}{3}$ 108. $x^3 + x^2 + c$ 109. $f(x) = 2x + \frac{1}{x} + 5$ 110. $2.5\cos(x + 306.9)^\circ$ 111. $x \neq 3$ and $x \neq 4$ 112. Correct shape drawn and labelled with $(0,3), (3,1), (5,3)$ 113. $Q(3, 1, -2)$ 114. $t = -3$ 115. Proof. 116. $m = 1$ 117. $y = -2x + 2$ 118. $y = -\frac{3}{2}x + 6$ 119. $u_4 = 3$ 120. 9/8
Ques 121 - 140	Ques 141 - 160
121. $y = -x(x + 1)(x - 2)$ 122. $x < -5$ and $x > 3$ 123. 1 124. $x = 60^\circ, 120^\circ, 240^\circ, 300^\circ$ 125. Proof. 126. 12 127. $y = 2x - 12$ 128. $-\frac{(1-6x)^{\frac{1}{2}}}{3} + C$ 129. $y = 2x^3 - 2x^2 + 3x + 2$ 130. $10\cos(x + 36.9)^\circ$ 131. $p(x) = 3 - \frac{3}{x}$ and $p(q(x)) = x$ 132. $y = -2f(x)$ passing through $(-6, 0), (1, 14), (3, 0)$ and $y = f(x - 3)$ passing through $(-3, 0), (4, -7), (6, 0)$ 133. $\vec{QR} = 2\vec{PQ}$ and Q is a common point so P, Q, R are collinear. 134. 5 135. Proof. 136. $y = -\frac{1}{2}x + \frac{13}{2}$ 137. $y = 6x + 9$ 138. $y = \frac{1}{4}x - \frac{7}{2}$ 139. $L = -50$ 140. Area = $\frac{20}{3}$ square units	141. $(x - 4)(x - 2)(x + 1)$ 142. $x < -3$ and $x > 2$ 143. $k = 0.46$ 144. $x = 45^\circ, 105^\circ, 225^\circ, 285^\circ$ 145. Proof. 146. $\frac{dy}{dx} = -6x^{-3} + 3x^{\frac{1}{2}}$ 147. $y = 2x - 11$ 148. $\frac{x^3}{3} + 4x^{-1} + C$ 149. $y = 2x^2 - 2x^3 + 5$ 150. $x = 53.1^\circ, 413.1^\circ$ 151. $f(g(x)) = 8x^2 + 80x + 195$ $g(f(x)) = 8x^2$ 152. $y = f(x - 4)$ passing through $(0,5), (5,a)$ $y = 2 + f(x - 4)$ passing through $(0,7), (5,a + 2)$ 153. AB:BC = 1:2 154. Unit vector = $\begin{pmatrix} \frac{4}{5} \\ 0 \\ -\frac{3}{5} \end{pmatrix}$ 155. Proof. 156. $m = 3$ 157. $y = x$ 158. $(x + 2)^2 + (y - 3)^2 = 18$ 159. $L = 60$ 160. Area = $\frac{343}{6}$ square units