Question 1
(a) \( x = \pm \sqrt{5/2} \) or \( x = \pm 2 \)
(b) \( x = \frac{1}{3} \)
(c) \( x = 1 \)

Question 2
(a) \((x, y) = (\sqrt{4}, 4)\)
(b) \(x \in [0, \sqrt{4}]\)

Question 3
(a) \( x = 2 \pm \frac{1}{2} \sqrt{2} \)
(b) \( p < \frac{1}{12} \)

Question 4
\( p = \frac{7}{6} \pi \)

Question 5
\( p = 4\sqrt{2} \) and \((x, y) = (2, 2\sqrt{2})\)

Question 6
\( p = 1 \) or
\( p = g\left(\frac{-5\pm \sqrt{33}}{2}\right) = 1 + \frac{1}{2}\log\left(\frac{-5\pm \sqrt{33}}{2}\right)\)

Question 7
(a) \(-\frac{1}{2} \ln |4 - x^2| + C\)
(b) \(2x^2(x^2 - 1)\)
(c) \(1 \frac{1}{8}\)

Question 8
\( 3 \frac{2}{3} \)

Question 9
\( \frac{5}{6} \left(1 - \frac{1}{2}\right) \)