1. Solve 5, 6, 13 and 14 in Section 8-6
   Answer: see back of the textbook for odd number questions; (6) \(2x\sqrt{y + x^2} + C(x),\)
   \(2x(\sqrt{5} + x^2) - \sqrt{1 + x^2};\) (14) \(\frac{56 - 20\sqrt{5}}{3}\)

2. Solve 18, 28, 30, 32 in Section 8-6
   Answer: (18) \(728/9;\) (28) \((1 - e^{-1})^2\) cubic units; (30) \(\frac{1}{2}(e^2 - e - 1);\) (32) \(2 \ln 6\)

3. Describing regular regions:
   (a) 1-6 in Section 8-7
   Answer: (2) \(R = \{(x, y)|x^2 \leq y \leq 9, 0 \leq x \leq 3\}\) or \(R = \{(x, y)|0 \leq x \leq \sqrt{y}, 0 \leq y \leq 9\};\) (4) \(R = \{(x, y)|y - 1 \leq x \leq 5 - y, 0 \leq y \leq 3\};\) (6) \(R = \{(x, y)|4 - x \leq y \leq 4 + 3x - x^2, 0 \leq x \leq 4\}\)
   (b) 11-14 in Section 8-7
   Answer: (12) \(R\) consists of points on or inside the circle of radius 2 centered at the origin that are not inside the circle of radius 1 centered at the origin; neither (14) \(R\) consists of the points on or inside the square with corners at \((\pm1, 0)\) and \((0, \pm1)\); both

4. Evaluating integrals:
   (a) 8 in Section 8-7
   Answer: 2
   (b) 20 in Section 8-7
   Answer: \(\frac{8\sqrt{2}}{3} - 2\)
   (c) 24 in Section 8-7
   Answer: \(\frac{464}{5}\)
   (d) 26 in Section 8-7
   Answer: \(1 - \ln 2\)

5. Reversing the order of integration:
   (a) 29-32 in Section 8-7
   Answer: (30) \(\frac{596}{21};\) (32) 48.
(b) 37-40 in Section 8-7
   Answer: (38) $\frac{1}{3}$; (40) $\frac{56}{9}$

6. **Finding volume**:

   (a) 34 in Section 8-7
      Answer: $\frac{4}{3}$ cubic units

   (b) 36 in Section 8-7
      Answer: $\frac{1}{2}$ cubic units