Below are answers, not complete solutions. On the real test, for the hand-graded problems (the last six), you will have to show all work, but not need to simplify your answers.

(1) E
(2) B
(3) A
(4) C
(5) A
(6) E
(7) C
(8) B
(9) C
(10) D
(11) A
(12) E
(13) B
(14) D
(15) E
(16)
\[ \pi \int_{-2}^{2} ((5 + \sqrt{4 - y^2})^2 - (5 - \sqrt{4 - y^2})^2)dy, \]
using washers, or
\[ 2\pi \int_{3}^{7} 2x\sqrt{4 - (x - 5)^2}dx, \]
using shells.

(17) (a) \((3 + \sqrt{17})/2\); (b) \(3\sqrt{2} - 2\).
(18) (a) \(2/3\); (b) \(-2\sqrt{1 - x} + 4\sqrt{(1 - x)^3}/3 - 2\sqrt{(1 - x)^5}/5 + C, C \)
runs over the real numbers.
(19) \(4\sqrt{2}/3\) and 16/3.
(20) (a) \((-\infty, \infty)\); (b) 0 and 0; (c) \(y = 0\); (d) \(x = -1\); \(f\) decreases
before that point and increases afterward; (e) concave up on

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(−2, ∞) and down on (−∞, −2), with \( x = -2 \) being the only inflection point; (f) the same shape of a graph as in Figure 11 on p. 320 of the text.

(21) \( 34\frac{1}{6} \)